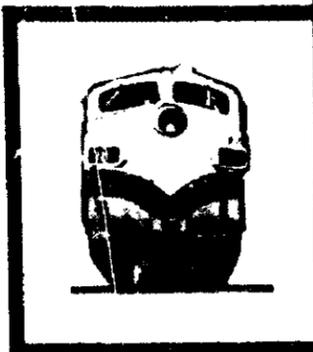




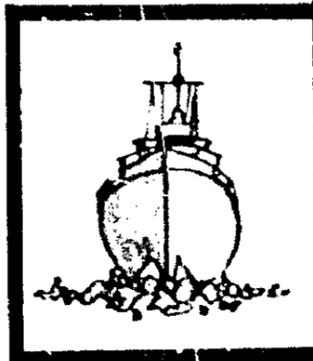
PB85-917208



NATIONAL TRANSPORTATION SAFETY BOARD



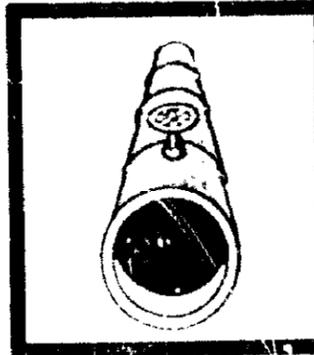
WASHINGTON, D.C. 20594



RAILROAD ACCIDENT REPORTS

BRIEF FORMAT

ISSUE NUMBER 4 - - 1984



NTSB/RAB-85/08

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161



UNITED STATES GOVERNMENT

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. NTSB-RAB -85/08		2. Government Accession No. PB85-917208		3. Recipient's Catalog No.																																									
4. Title and Subtitle Railroad Accident Report: Brief Format, Issue Number 4, 1984				5. Report Date																																									
				6. Performing Organization Code																																									
7. Author(s)				8. Performing Organization Report No.																																									
9. Performing Organization Name and Address National Transportation Safety Board Bureau of Field Operations Washington, D.C. 20594				10. Work Unit No.																																									
				11. Contract or Grant No.																																									
				13. Type of Report and Period Covered 58 U.S. Railroad Accidents occurring between 10/1/84 and 12/31/84, and some from prior quarters																																									
12. Sponsoring Agency Name and Address NATIONAL TRANSPORTATION SAFETY BOARD Washington, D. C. 20594				14. Sponsoring Agency Code																																									
15. Supplementary Notes																																													
16. Abstract This publication contains briefs of selected railroad accidents occurring in U.S. Railroad operations. The brief format presents basic facts, conditions, circumstances, and probable cause(s) in each instance. Additional statistical information is tabulated by types of accidents and casualties related to types of accidents, carriers involved, and causal factors. Sequence numbers: <table border="0" style="margin-left: 100px;"> <tr> <td>83-33, 34</td> <td>84-16</td> <td>84-85</td> <td>84-142</td> </tr> <tr> <td>83-36</td> <td>84-22</td> <td>84-87</td> <td>84-144</td> </tr> <tr> <td>83-53</td> <td>84-48</td> <td>84-91</td> <td>84-147 through 153</td> </tr> <tr> <td>83-78</td> <td>84-51</td> <td>84-98</td> <td>84-156 through 164</td> </tr> <tr> <td>83-112</td> <td>84-57</td> <td>84-100</td> <td>84-166 through 175</td> </tr> <tr> <td>83-116</td> <td>84-61</td> <td>84-106</td> <td></td> </tr> <tr> <td>83-125</td> <td>84-68, 69</td> <td>84-109</td> <td></td> </tr> <tr> <td>83-147</td> <td>84-72</td> <td>84-111</td> <td></td> </tr> <tr> <td></td> <td>84-76</td> <td>84-131</td> <td></td> </tr> <tr> <td></td> <td>84-81</td> <td>84-133</td> <td></td> </tr> </table>						83-33, 34	84-16	84-85	84-142	83-36	84-22	84-87	84-144	83-53	84-48	84-91	84-147 through 153	83-78	84-51	84-98	84-156 through 164	83-112	84-57	84-100	84-166 through 175	83-116	84-61	84-106		83-125	84-68, 69	84-109		83-147	84-72	84-111			84-76	84-131			84-81	84-133	
83-33, 34	84-16	84-85	84-142																																										
83-36	84-22	84-87	84-144																																										
83-53	84-48	84-91	84-147 through 153																																										
83-78	84-51	84-98	84-156 through 164																																										
83-112	84-57	84-100	84-166 through 175																																										
83-116	84-61	84-106																																											
83-125	84-68, 69	84-109																																											
83-147	84-72	84-111																																											
	84-76	84-131																																											
	84-81	84-133																																											
17. Key Words				18. Distribution Statement This document is available through the National Technical Information Service, Springfield, Virginia 22161																																									
19. Security Classification (of this report) UNCLASSIFIED		20. Security Classification (of this page) UNCLASSIFIED		21. No. of Pages 68	22. Price																																								

FOREWORD

The National Transportation Safety Board is an independent Federal agency that serves as the overseer of safety in railroad, highway, pipeline, marine, and civil aviation transportation. The Safety Board was created by the Transportation Act of 1966 at which time it functioned as an autonomous agency under the Department of Transportation. In 1974, Congress enacted the Independent Safety Board Act which established the Safety Board as a totally independent agency of the Federal Government and broadened the Board's investigative role in the surface modes of transportation.

Under the Independent Safety Board Act, the Board has the authority to investigate, determine the facts, conditions, circumstances, and probable cause(s) of accidents, issue safety recommendations, conduct special studies on transportation safety, assess techniques of accident investigation, evaluate effectiveness of other government agencies with respect to transportation safety, and evaluate the adequacy of safeguards and procedures for transporting hazardous materials.

In accordance with the provisions of the Independent Safety Board Act of 1974, the NTSB has determined the probable cause of the accidents reported herein.

This publication contains the reports of 58 U.S. railroad accidents arranged in alphabetical order by railroad company name and tabulations of selected accident information including (1) types of accidents by carrier, (2) types of accidents by state, (3) casualties by types of accident and classes of persons, and (4) causal factors arranged by categories, types and numbers of accidents. These brief format reports are published quarterly on a calendar year basis and mostly include summaries of field investigations conducted by the Board's six railroad field offices. (See figure 1.) The briefs also contain data extracted from reports of investigations of major accidents which may be distinguished from the field investigations by the reference to the published National Transportation Safety Board major accident report under the probable cause section.

Care should be taken in interpreting the data contained in the four tables as they reflect only a three-month period and thus do not reflect an accurate long-term statistical distribution. At the end of each calendar year, an annual review of railroad accident data is published which contains tables and graphs compiled from that year's accident data.

These Briefs are summaries of reports of the National Transportation Safety Board and are thereby subject to the limitation of 49 USC 1903(c):

No part of any report or reports of the Board, relating to any accident or the investigation thereof, shall be admitted as evidence or used in any suit or action for damages growing out of any matter mentioned in such report or reports.

For those readers who wish more detailed information, the original factual reports for both field and major accidents are on file in the Washington, D.C., office of the National Transportation Safety Board and may be examined. These reports will be reproduced for a fee covering reproduction cost and postage. Orders for material also are subject to a user charge by the Board for special services, and such charge will be included in the bill.

Requests for reproduction should be forwarded to:

National Transportation Safety Board
Public Inquiries Section
Washington, D.C. 20594

National Transportation Safety Board Railroad Field Offices

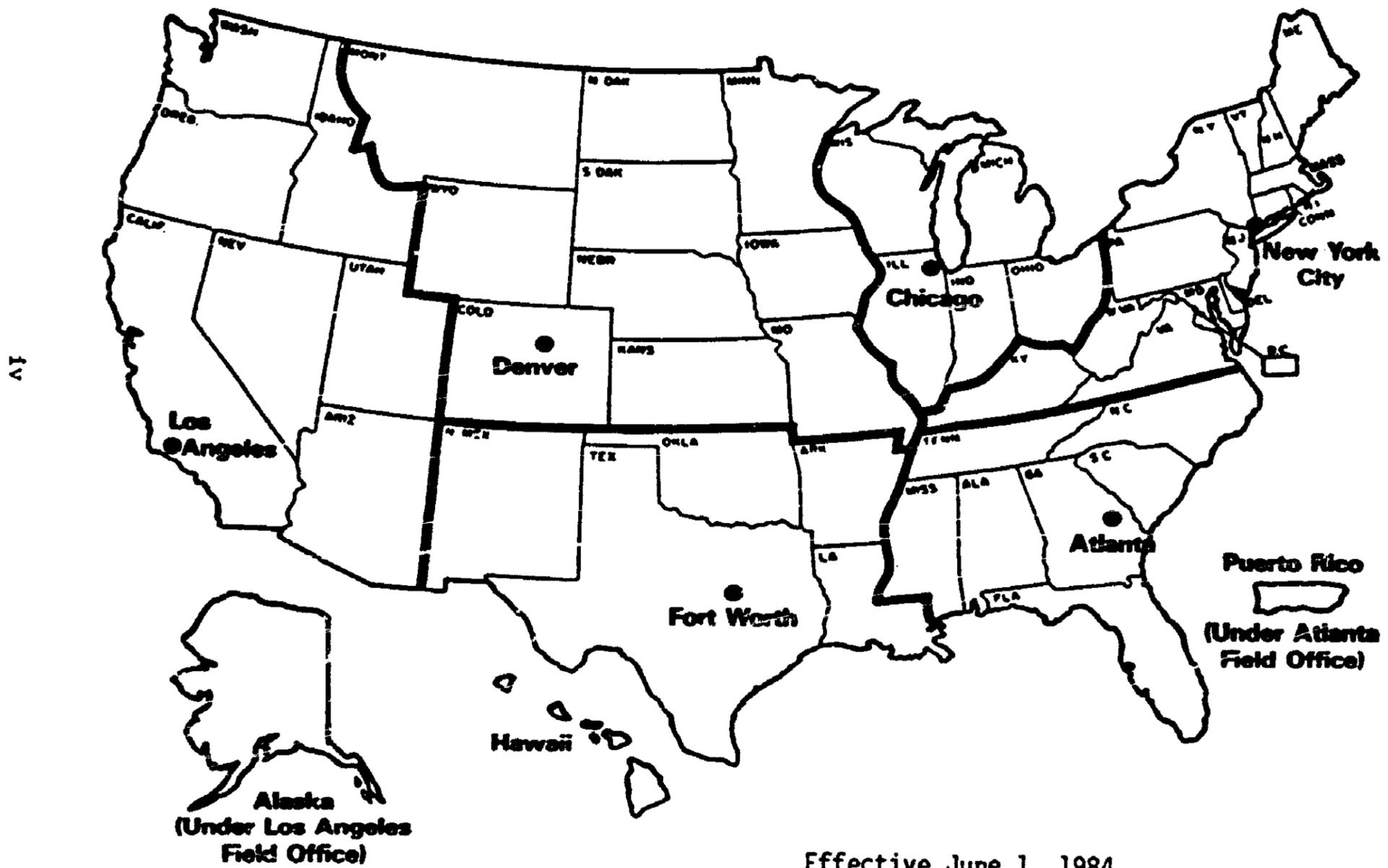


TABLE OF CONTENTS

FOREWARD ii

TABLE OF CONTENTS v

EXPLANATORY NOTES vi

STATISTICAL TABLES:

- 1. Accidents by Type and Railroad 1**
- 2. Accidents by Type and State 2**
- 3. Casualties by Type of Accident and Class
of Person 3**
- 4. Causal Factors by Major Category and
Accident Type. 4**

REPORT OF ACCIDENTS 5-62

EXPLANATORY NOTES

Scope

The accidents included herein are those occurrences incidental to railroad operations which fall within the scope of Section 304 of the Independent Safety Board Act of 1974. As provided in that Section, the Board investigates and determines facts, conditions, circumstances, and probable cause of any railroad accident in which there is a fatality or substantial property damage, or which involves a passenger train. The following definitions, as set forth in Part 840 of the National Transportation Safety Board's regulations (49 CFR 840), effective April 1, 1976, and as amended August 14, 1980, are applicable.

Railroad - 840.2(a)

"Railroad" means 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.

Accident - 840.2(b)

"Accident" means any collision, derailment, or explosion involving railroad trains, locomotives, and cars; or any other loss-causing event involving the operation of such railroad equipment that results in a fatality or the emergency evacuation of persons.

Joint Operations - 840.2(c)

"Joint Operations" means rail operations conducted on a track used jointly or in common by two or more railroads subject to this part, or operation of a train, locomotive, or car by one railroad over the track of another railroad.

Fatality 840.2(d)

"Fatality" means the death of a person either at the time an accident occurs or within 24 hours thereafter.

Substantial Damage - 840.3

"Substantial Damage" in nonfatal railroad accidents is defined as follows:

1. Damage of \$150,000 or more to railroad and nonrailroad property; or
2. All accidents involving passenger trains.

TABLE 1:
ACCIDENTS BY REPORTING RAILROAD AND TYPE

REPORTING RAILROAD	COLLISION	DERAILMENT	EMPLOYEE FATALITY	PERSONAL FATALITY	GRADE CROSSING	TOTAL	HAZ. MAT. (1) INVOLVED
AMTRAK	0	1	0	0	0	1	0
ATCHISON TOPEKA AND SANTA FE RY CO.	0	3	0	0	1	4	0
BALTIMORE & OHIO RR CO.	0	1	1	0	0	2	0
BURLINGTON NORTHERN INC.	0	6	1	0	1	8	0
CENTRAL VERMONT RY INC.	0	1	0	0	0	1	0
CHESAPEAKE AND OHIO RY CO. (THE)	0	1	1	0	0	1	0
CHICAGO MILWAUKEE ST PAUL & PACIFIC RR CONSOLIDATED RAIL CORP.	1	0	0	0	0	1	0
DEQUEEN AND EASTERN RR CO.	2	0	0	0	0	2	0
GREATER CLEVELAND REGIONAL TRANSIT AUTH.	1	0	0	0	0	1	0
INDIANA HARBOR BELT RR	1	0	0	0	0	1	0
ILLINOIS CENTRAL GULF RR	1	0	0	0	0	1	0
KANSAS CITY SOUTHERN RY CO.	0	1	0	0	0	1	0
LONG ISLAND RR (THE)	0	1	0	0	0	1	0
MASSACHUSETTS BAY TRANSPORTATION AUTH.	0	0	0	0	0	1 (2)	0
METRO NORTH COMMUTER RR	0	1	0	0	0	1	0
MISSOURI PACIFIC RR CO.	1	0	1	0	0	2	0
NEW YORK CITY TRANSIT AUTH.	0	1	3	1	0	6 (2)	0
NORFOLK AND WESTERN RY CO.	0	1	1	0	1	3	0
SE PENNSYLVANIA TRANSPORTATION AUTH.	1	1	0	0	0	2	0
SEABOARD COAST LINE RR	0	2	1	0	0	3	0
SOO LINE RR CO.	0	1	0	0	0	1	0
SOUTHERN PACIFIC TRANSP. CO.	0	2	1	0	1	4	0
ST. LOUIS SOUTHWESTERN RY CO.	0	2	0	0	1	3	1
TEXAS OKLAHOMA & EASTERN RR CO.	0	0	1	0	0	1	0
UNION PACIFIC	0	3	0	0	0	3	0
TOTAL	9	30	11	1	5	58	1

(1) NOT INCLUDED IN TOTAL RAILROAD ACCIDENTS INVESTIGATED

(2) TWO INVOLVED FIRE ONLY

TABLE 2:
ACCIDENTS BY STATE AND TYPE

STATE	COLLISION	DERAILMENT	EMPLOYEE FATALITY	PERSONAL FATALITY	GRADE CROSSING	TOTAL	HAZ. MAT. (1) INVOLVED
ARKANSAS	2	0	0	0	0	2	0
CALIFORNIA	0	0	0	0	1	1	0
COLORADO	0	1	0	0	1	2	0
GEORGIA	0	2	0	0	0	2	0
IDAHO	0	1	0	0	0	1	0
ILLINOIS	1	2	2	0	2	7	0
IOWA	1	0	0	0	0	1	0
KANSAS	0	2	0	0	0	2	0
LOUISIANA	0	1	0	0	0	1	0
MASSACHUSETTS	0	0	0	0	0	1 (2)	0
MICHIGAN	0	0	1	0	0	1	0
MINNESOTA	0	1	0	0	0	1	0
MISSOURI	1	2	0	0	0	3	0
NEBRASKA	0	2	0	0	0	2	0
NEW JERSEY	0	1	0	0	0	1	0
NEW MEXICO	0	2	0	0	0	2	0
NEW YORK	0	3	3	1	0	8 (2)	0
NORTH CAROLINA	0	1	1	0	0	2	0
NORTH DAKOTA	0	1	0	0	0	1	0
OHIO	2	1	1	0	0	4	0
OKLAHOMA	0	0	1	0	0	1	0
OREGON	0	1	0	0	0	1	0
PENNSYLVANIA	2	1	0	0	0	3	0
TEXAS	0	2	1	0	1	4	1
VERMONT	0	1	0	0	0	1	0
WEST VIRGINIA	0	1	1	0	0	2	0
WISCONSIN	0	1	0	0	0	1	1
TOTAL	9	30	11	1	5	58	2

(1) NOT INCLUDED IN TOTAL RAILROAD ACCIDENTS INVESTIGATED

(2) TWO INVOLVED FIRE ONLY

TABLE: 3
CASUALTIES BY CLASS OF PERSON AND ACCIDENT TYPE

	COLLISION	DERAILPENT	PERSONAL CASUALTY	GRADE CROSSING	TOTAL
RAILROAD EMPLOYEES					
FATALITIES.....	3	0	11	0	14
INJURIES.....	5	3	0	0	13
PASSENGERS					
FATALITIES.....	0	0	1	0	1
INJURIES.....	207	11	0	0	218
GENERAL PUBLIC					
FATALITIES.....	0	1	0	6	7
INJURIES.....	0	2	0	3	5

NOTE: "GENERAL PUBLIC" CONSISTS OF ALL PERSONS WHO ARE NEITHER RAILROAD EMPLOYEES NOR PASSENGERS, INCLUDING BUT NOT LIMITED TO PERSONS ON OFFICIAL BUSINESS ON THE RAILROAD, EMERGENCY FORCES, AND MEMBERS OF THE PUBLIC NOT ON RAILROAD PROPERTY

TABLE 4:
CAUSAL FACTORS BY MAJOR CATEGORY AND ACCIDENT TYPE

	COLLISION	DERAILMENT	EMPLOYEE FATALITY	PERSONAL FATALITY	GRADE CROSSING	TOTAL	HAZ. MAT. (1) INVOLVED
TRACK AND STRUCTURE DEFECTS	0	11	0	0	0	12 (3)	1
EQUIPMENT FAILURES	0	6	0	0	0	7 (3)	0
OPERATING PRACTICES	0	0	1	0	0	1	0
HUMAN FAILURE	8	9	10	1	5	33	1
OTHER (2)	1	4	0	0	0	5	0
	-----	-----	-----	-----	-----	-----	-----
TOTAL	9	30	11	1	5	58	2

(1) NOT INCLUDED IN TOTAL RAILROAD ACCIDENTS INVESTIGATED

(2) "OTHER" INCLUDES DAMAGE FROM NATURAL FORCES, VANDALISM, SABOTAGE, SYSTEM DESIGN INADEQUACIES, FAILURE OF RADIO AND RADIO COMPONENTS, AND FAILURE OF CARGO AND CARGO TIEDOWN AND/OR BLOCKING

(3) TWO INVOLVED FIRE ONLY

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-164

Reported by: Amtrak Brief of Railroad No.: NYC-85-FR004

Location: Plainsboro, New Jersey Time: 0008 EST Date: 11/16/84 Weather: Clear Visibility: Dark/1,000 ft.

Train: Class: Direction: Operating Phase: Track No.:

1 Transport of New Jersey Passenger Commuter East Enroute 1

2 _____

3 _____

Accident Description: Passenger commuter train No. 3864, consisting of 6 self-propelled cars, had one truck of the 6th car derail when it struck a broken coupler while the train was moving 100 mph. A Conrail freight train on track 2 had the coupler break out of the 24th car and land on track 1. The freight train crew could not locate the coupler in the dark. They did not provide flag protection for adjacent tracks, as required by Amtrak Operating Rule 102. Rule 102 also requires Operators or Train Dispatchers to notify passing trains to proceed at restricted speed past the first train, and this was not done. Extensive damage was done to undercar equipment. There were 14 passengers on the train.

Probable Cause:

1. Failure of freight train crew to protect adjacent tracks (Rule 102)
2. Failure of train director to warn train 3864 to travel at restricted speed (Rule 102)
3. _____

Other Factors:

1. _____
2. _____
3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>-0-</u>	_____		<u>-0-</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____
3. _____

Property Losses:

Railroad: \$225,000

Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-22

Reported by: Atchison Topeka & Santa Fe Ry Co. Brief of Railroad No.: FTW84FR007
 Location: Belen, New Mexico Time: 0245 MST Date: 11/17/83 Weather: Clear Visibility: Dark/1900 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Atchison Topeka & Santa Fe Ry Co. Freight West En route 1
 2 _____
 3 _____

Accident Description: Train No. Extra 308-01, consisting of 4 locomotive units and 78 cars, had 56 cars derail while moving downgrade at a speed of 49 mph. Previous to the accident, a coupler knuckle had broken off one end of the 26th car. In the dark, the train crew did not notice it. Moving downgrade, the train had a tendency to stay together at the broken knuckle, but 5 times in less than 8 miles, the 26th and 27th cars moved apart, the air hose separated, and the train brakes went into emergency. The conductor told the brakemen to cut out the air in the last 52 cars and they went on. The train came apart again, unknown to the crew, and finally the rear portion of the train caught up with the front of the train on the long downgrade, resulting in the derailment. The rear 52 cars had no operable brakes at that time.

Probable Cause: 1. Operating train with insufficient operable brakes.
 2. _____
 3. _____
 Other Factors: 1. Broken coupler knuckle
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty: 1. _____
 2. _____

Property Losses:
 Railroad: \$7,224,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-48

Reported by: Atchison, Topka & Santa Fe Railroad Co.

Brief of Railroad No.: FTW-84-FR016

Location: Stephenville, Texas Time: 0610 CST Date: 01-25-84 Weather: Clear Visibility: Dark/2,000 ft.

Train:	Class:	Direction:	Operating Phase:	Track No.:
1 <u>Atchison, Topeka & Santa Fe Railway Co.</u>	<u>Freight</u>	<u>West</u>	<u>Enroute</u>	<u>1</u>
2 _____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____

Accident Description: Freight train No. 508 Y-1, consisting of 4 locomotive units and 34 cars, had the first 25 cars derail. The locomotive units became disconnected from the first derailed car and they travelled 2,350 feet with emergency braking applied before stopping. The derailment was in a 5-degree 58-minute curve which had a speed restriction of 30 mph. An NTSB investigator estimated the train was moving through the curve at about 50 mph when a brake application was made.

Probable Cause: 1. Failure to control speed of train
2. Excessive buff forces in sharp curve.
3. _____

Other Factors: 1. _____
2. _____
3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>-0-</u>	_____		<u>-0-</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
1. _____
2. _____
3. _____

Property Losses:
Railroad: \$632,000
Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-87

Reported by: <u>Atchison, Topeka & Santa Fe Railway</u>		Brief of Railroad No.: <u>CHI-84-FR001</u>			
Location:	Time:	Date:	Weather:	Visibility:	
<u>Lacon, Illinois</u>	<u>1905 CST</u>	<u>04-23-84</u>	<u>Rain</u>	<u>Dark/300 feet</u>	
Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
<u>1</u>	<u>Atchison, Topeka & Santa Fe Railway</u>	<u>Freight</u>	<u>West</u>	<u>En Route</u>	<u>1</u>
<u>2</u>	_____	_____	_____	_____	_____
<u>3</u>	_____	_____	_____	_____	_____

Accident Description:

Truck carrying heavy equipment drove onto crossing grade crossing and struck side of train, resulting in derailment and fatality. Truck driver drove past flashing light signals and around crossing gates. 18 cars derailed. Speed of train was 40 mph.

Probable Cause:

1. Failure of person to stop at grade crossing due to willful act of individual
- _____
- _____

Other Factors:

- _____
- _____
- _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Truck driver</u>		<u>0</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Truck struck train
- _____
- _____

Property Losses:

Railroad:	<u>\$138,000</u>
Non-Railroad:	<u>50,000</u>

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Atchison, Topeka & Santa Fe Railway Company Brief of Railroad No.: DEN85PR009

Location: Glorieta, New Mexico Time: 2054 MST Date: 12/21/85 Weather: Clear Visibility: Dark/1000 FT

Train: Railroad: Class: Direction: Operating Phase: Track No.:

1 Atchison, Topeka & Santa Fe Railway Co. Freight Unit West West 1

2 _____ _____ _____ _____ _____

Accident Description: Unit coal train No. CYC-NC121, consisting of eight locomotive units and 103 loaded coal cars, had 2 units and 43 cars derail while moving 54 mph. Four of the locomotive units were remote control units in the rear portion of the train. The train had separated because of a broken knuckle between the 61st and 62nd cars. While the crew was replacing the knuckle, the front portion of the train began to roll freely down the descending grade. The engineer leaped from the train when it reached a speed of about 30 mph. The train rolled on down the hill and derailed in an 8 degree curve.

Probable Cause: 1. Failure to properly control the train brakes

2. Failure to set sufficient handbrakes

Other Factors: 1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____

2. _____

Property Losses:

Railroad: \$2,011,000

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Baltimore and Ohio Railroad Company Brief of Railroad No.: ATL85FR002

Location: Martinsburg, West Virginia Time: 1848 EST Date: 10/31/84 Weather: Cloudy Visibility: Dark/800 FT

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Baltimore and Ohio Railroad Company</u>	<u>Loco</u>	<u>East</u>	<u>En route</u>	<u>1</u>
2					

Accident Description: The fireman of the 4:00 p.m. Pearson Yard Drill had completed the storing of Amtrak Train No. 701 and she was attempting to join the rest of her crew located across the main tracks. Approaching on the No. 2 main track was a two-unit helper locomotive moving at a recorded speed of 15 mph. The helper headlight was dimmed. The fireman was caught on the rerailer hanger hook of the trailing unit of the eastbound helper. She was dragged for 39 feet. She sustained fatal injuries.

Probable Cause: 1. Failure of person to detect approaching train
2. _____

Other Factors: 1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	

Probable Cause of Casualty:

1. Struck by locomotive
2. _____

Property Losses:

Railroad: - 0 -
Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-167

Reported by: Baltimore & Ohio RR Brief of Railroad No.: CHI85FR004
 Location: Zaleski, Ohio Time: 2025 EST Date: 11/19/84 Weather: Clear Visibility: Dark/500 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Baltimore & Ohio RR Freight West En route 1
 2 _____
 3 _____

Accident Description: Freight train Extra No. 4349, consisting of 3 locomotive units and 74 cars, had cars 15 through 39 derail while moving at a speed of 48 mph. An empty flat car in the train had tiedown chains that came loose and dragged on the ground. The chains caught on a switch stand, tore it loose and threw the switch under the train.

Probable Cause: 1. Loosely secured tiedown equipment.
 2. _____
 3. _____
 Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty: 1. _____
 2. _____

Property Losses:
 Railroad: \$148,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

83-33

Reported by: Burlington Northern Inc. Brief of Railroad No.: DEN83FR010
 Location: Beardstown, Illinois Time: 1425 CST Date: 01/18/83 Weather: Cloudy Visibility: Day/5600 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Burlington Northern Inc. Yard/switching South Switching 4
 2 _____
 3 _____

Accident Description: The conductor of a yard switching operation was fatally injured when he stepped in front of the moving yard train. The conductor was 56 years old and had diabetes, atherosclerotic heart disease, and severe emphysema.

Probable Cause: 1. Fatigue due to illness.
 2. _____
 3. _____
 Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
 1. Struck by train
 2. _____

Property Losses:
 Railroad: - 0 -
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

83-36

Reported by: Burlington Northern Inc. Brief of Railroad No.: DEN84FR012
 Location: Nodaway Missouri Time: 0105 CST Date: 01/27/83 Weather: Snow Visibility: Dark but lighted/4530 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Burlington Northern Inc. Freight Unit Train West En route 1
 2 _____
 3 _____

Accident Description: Train Extra 7152 West, consisting of 4 locomotive units and 111 cars, had 24 cars derail in the middle of the train. Some cars ended up near Route 111, but traffic was not blocked. Some power lines were broken, disrupting power in Nodaway for a short period. The rail was 112 lb. rail that had been laid in 1957 and carried frequent, heavy unit coal trains.

Probable

- Cause: 1. Broken joint bar
 2. Improperly maintained rail joint
 3. _____

Other

- Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
 2. _____

Property Losses:

Railroad: \$270,000
 Non-Railroad: 10,000

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-131

Reported by: Burlington Northern Inc. Brief of Railroad No.: CHI-84-F-R009
 Location: Clear Lake, Minnesota Time: 1510 CDT Date: 08/15/84 Weather: Clear Visibility: Day/9,000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Burlington Northern Inc. Freight unit train East Enroute 1
 2 _____
 3 _____

Accident Description: Freight train No. Extra 7084 East, consisting of 3 locomotive units and 112 cars, had the 49th through 81st cars (33 cars) derail while moving 40 mph at a grade crossing. Track work had been going on there for 2 days preceding the accident and the temperature for 2 days was over 90°. The traincrew stated they saw a "ripple" in the welded rails as they approached the site.

Probable

Cause: 1. Failure of alinement due to previous repair
 2. Failure to properly comply with Maintenance of Way Circular # 1
 3. Inadequate training in maintenance of way procedures
 Other Factors: 1. Extreme heat
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>0</u>	_____		<u>0</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
 2. _____

Property Losses:

Railroad: \$815,000
 Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-144

Reported by: Burlington Northern Inc. Brief of Railroad No.: CH18AER012
 Location: Cicero, Illinois Time: 2330 CDT Date: 09/21/84 Weather: Clear Visibility: Dark/500 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Burlington Northern Inc. Passenger commuter East En route 2
 2 _____
 3 _____

Accident Description: Commuter train No. 2 struck a box car door that was lying on the track and had 2 passenger coaches derailed while moving at a speed of 58 mph. The train consisted of 3 coaches being pushed by one locomotive unit. There were no fatalities, but 2 crewmembers and 10 passengers were treated for minor injuries. The lead coach was totally destroyed. Prior to the accident, a yard train had made switching moves in the area for several hours. Vandals had opened a box car door on the yard train. The door then fell off of the box car during the switching movements in an area known for vandalism.

Probable Cause: 1. Vandalism of box car.
 2. _____
 3. _____

Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>2</u>	<u>Employees on duty</u>
	_____	_____		<u>10</u>	<u>Passengers</u>
	_____	_____			<u>(All minor injuries)</u>
	_____	_____			_____

Probable Cause of Casualty:
 1. Striking injurious environment
 2. _____

Property Losses:
 Railroad: \$800,000
 Non-Railroad: - 0 -

84-147

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Burlington Northern Inc. Brief of Railroad No.: DEN85FR001

Location: Commerce City, Colorado Time: 2032 MDT Date: 10/03/84 Weather: Rain Visibility: Dark/6000 FT

Train: 1 Burlington Northern Inc. Railroad: Freight Class: East Direction: En route Operating Phase: 1 Track No.:

2 _____

Accident Description: A 4-door Pontiac sedan carrying five occupants was traveling eastbound on Colorado Highway 2 and turned onto East 80th Ave., headed north in Commerce City approaching a signal-protected railroad/highway grade crossing. The vehicle was driven onto the crossing and was struck broadside by the lead locomotive of Extra 5483 east. Four of the vehicle occupants were killed and one received minor injuries. The train speed was 40 mph. The engineer placed the automatic brake valve in emergency about the time of impact. A witness noticed the crossing lights were unobstructed. An analysis of the driver's BAC disclosed a level of 0.085 percent. Train crew members tested negative for alcohol or drugs. The locomotive whistle was sounded for the crossing.

Probable Cause: 1. Failure to stop at protected grade crossing due to use of drugs or intoxicants

2. _____

Other Factors: 1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>4</u>	<u>Public on RR Property</u>		<u>1</u>	<u>Public on RR Property</u>
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Struck by train

2. _____

Property Losses:

Railroad: \$1,000

Non-Railroad: \$3,000

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Burlington Northern Inc. Brief of Railroad No.: DEN85FR003

Location: Wellsberg, North Dakota Time: 2030 CDT Date: 10/06/84 Weather: Cloudy Visibility: Dark/8200 FT

Train: 1 Burlington Northern Inc. Railroad: Freight Class: East Direction: En route Operating Phase: 1 Track No.:

2 _____

Accident Description: Thirty-four cars of an eastbound freight train Extra 5498 east derailed at mile post 115. There were no injuries or hazardous materials involved. First marks indicated a wheel truck side had marked the cross tie ends for nearly 3168 feet before striking the switch at Wellsberg siding. The left No. 4 journal roller bearing (Brenco 6x11 inch) in the trailing truck of the 13th head car, SSW 57819 failed at mp 155.6.

Probable Cause: 1. Failure of axle hub due to an overheated journal bearing

2. _____

Other Factors: 1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____

2. _____

Property Losses:

Railroad: \$723,000

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Burlington Northern Inc. Brief of Railroad No.: DEN85FR005
 Location: Holbrook, Nebraska Time: 1125 CDT Date: 10/30/84 Weather: Cloudy Visibility: Day/8000 FT
 Train: 1 Burlington Northern Inc. Railroad: Freight Class: East Direction: En route Operating Phase: 1 Track No.:
 2 _____

Accident Description: Eight locomotives and 36 cars in train Extra 8018 east derailed near mile post 254.6 while moving through a 1 degree 30 minute curve at a speed of 60 mph. The R-1 wheel on the fourth locomotive (6340) derailed in about the middle of the curve. The track for about two miles approaching the accident site did not meet the minimum standards of the FRA Track Safety Standards for Class 4 track. Carrier personnel repaired the defects before any traffic was allowed over the track.

Probable Cause: 1. Failure of a rail due to head/web separation.
 2. _____

Other Factors: 1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
 1. _____
 2. _____

Property Losses:
 Railroad: \$1,161,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Burlington Northern Railroad Brief of Railroad No.: DEN85FR010

Location: Commerce City, Colorado Time: 2015 MST Date: 12/24/84 Weather: Cloudy Visibility: Dark/2500 FT

Train:	Class:	Direction:	Operating Phase:	Track No.:
1 <u>Burlington Northern Railroad</u>	<u>Unit freight</u>	<u>West</u>	<u>En route</u>	<u>i</u>
2 _____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____

Accident Description: 27 hopper cars loaded with coal in a westbound Burlington Northern Railroad Company unit coal train, No. 94T08, derailed at Mile Post 534.6. This location was at the point of a switch that connects the main track to the Rocky Mountain Arsenal track. The accident occurred near Commerce City, Colorado.

Probable Cause: 1. Failed roller bearing due to excessive heat.

2. _____

3. _____

Other Factors: 1. _____

2. _____

3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____

2. _____

3. _____

Property Losses:

Railroad: \$937,000

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-61

Reported by: Central Vermont Railway Brief of Railroad No.: NYC84FR015

Location: Vernon, Vermont Time: 0215 EST Date: 02/13/84 Weather: Fog Visibility: Dark/-0- ft.

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Amtrak</u>	<u>Passenger</u>	<u>South</u>	<u>En route</u>	<u>1</u>
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

Accident Description: Amtrak train No. 61 (The Montrealer), consisting of 2 locomotive units, 1 baggage car, 4 sleeping cars, 1 cafe car and 3 coaches, derailed while moving 46 mph. The locomotive units and all but the last 4 cars derailed in a 5 degree that had a speed restricting of 40 mph. None of the cars uncoupled or turned over; however, the first car broke loose from the locomotive.

Probable Cause:

1. Failure to operate train in compliance with speed restriction.
2. _____
3. _____

Other Factors:

1. Failure of engineer to recognize speed restriction area due to fog.
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$355,000

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-85

Reported by: Chesapeake and Ohio Ry Brief of Railroad No.: NYC84FR023
 Location: Dartmont, West Virginia Time: 1305 EST Date: 04/19/84 Weather: Rain Visibility: Day/1.000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Chesapeake and Ohio Ry Freight West En route 1
 2 _____
 3 _____

Accident Description: Freight train No. Extra 8204 West, consisting of 2 locomotive units and 139 cars, had the second locomotive unit and the following 24 cars derail. The train was moving through a 5 degree curve at a speed of 22 mph. A defective piece of welded rail had been cut out of the outside rail and replaced with a single piece of jointed rail that was 9'11" long. The short rail was not anchored and showed evidence of swinging outward under load conditions.

Probable Cause: 1. Failure of track alinement due to lack of rail anchors.
 2. _____
 3. _____

Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
 1. _____
 2. _____

Property Losses:
 Railroad: \$161,000
 Non-Railroad: - 0 -

84-150

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Chicago, Milwaukee, St. Paul & Pacific Railroad Brief of Railroad No.: DEN85FR002

Location: Bettendorf, Iowa Time: 2330 CDT Date: 10/05/84 Weather: Cloudy Visibility: Dark/600 FT

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Chicago, Milwaukee, St. Paul & Pacific RR</u>	<u>Freight</u>	<u>South</u>	<u>En route</u>	<u>4</u>
2	<u>Chicago, Milwaukee, St. Paul & Pacific RR</u>	<u>Freight</u>	<u>North</u>	<u>En route</u>	<u>4</u>

Accident Description: Chicago, Milwaukee, St. Paul & Pacific (MILW) train Extra 188 south struck the front of MILW train Extra 2066 north in a yard. Both trains were operating under the same train order, which instructed one to go into a siding and the other one to enter yard limits at restricted speed. Both train crews failed to properly observe the train order. Train 2066 remained on the main track and 188 entered yard limits at a speed of 17 mph and was unable to stop before the collision. Both crews safely jumped from their trains.

Probable Cause:

1. Failure of crew of train 2066 to comply with train order
2. Failure of crew of train 188 to comply with Rule 93 (yard limits)

Other Factors:

1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$141,000

Non-Railroad: - 0 -

84-016

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Consolidated Rail Corporation Brief of Railroad No.: DCA 84-FR-001

Location: Milbury, Ohio Time: 1122 EST Date: 11/11/85 Weather: Snow Visibility: Day/500 FT

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Conrail MAIL-8</u>	<u>Freight</u>	<u>East</u>	<u>En route</u>	<u>2</u>
2	<u>Conrail OIEL-9</u>	<u>Freight</u>	<u>West</u>	<u>En route</u>	<u>2 & 1</u>
3	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>

Accident Description: Train No. MAIL-8 en route eastbound on track No. 2 collided into side of westbound train No. OIEL-9 which was crossing over from track No. 2 onto track No. 1, resulting in 3 injuries and 1 fatality. The speed of train No. MAIL-8 was 64 mph, the speed of train No. OIEL-9 was 30 mph. The engineer of train No. MAIL-8 was aware of the impending accident; brakes were applied. The engineer of train No. OIEL-9 was not aware of the impending accident. The accident also resulted in derailment of 4 locomotive units and 30 cars.

Probable Cause: 1. Engineer of train No. MAIL-8 failed to operate according to signal indications
2.
3.

Other Factors: 1. Visibility of signals obscured by freezing rain and snow.
2.
3.

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Head brakeman</u>		<u>1</u>	<u>Engineer</u>
	<u></u>	<u></u>		<u>1</u>	<u>Conductor</u>
	<u></u>	<u></u>		<u>1</u>	<u>Rear brakeman</u>
	<u></u>	<u></u>		<u></u>	<u></u>

Probable Cause of Casualty:
1. Collapse of structure (locomotive cab)
2.
3.

Property Losses:
Railroad: \$4,219,000
Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Consolidated Rail Corporation Brief of Railroad No.: NYC84FR029
 Location: Enola, Pennsylvania Time: 1825 EDT Date: 06/30/84 Weather: Cloudy Visibility: Dark/1,000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Consolidated Rail Corporation Cut of cars West Makeup/breakup 34
 2 Consolidated Rail Corporation Cut of cars West Makeup/breakup 34
 3 Consolidated Rail Corporation Cut of cars West Makeup/breakup 35

Accident Description: A brakeman, age 56, was walking alongside a yard train moving on track 35 in the Enola Yard. A cut of 11 cars came from the hump track into track 34 and struck a cut of 16 cars, derailing one of the 16 cars. The derailed car struck the brakeman and then sideswiped the train on track 35. The brakeman was seriously injured and died 7 days later. A blood analysis after the accident revealed a blood alcohol content of 0.167% in the brakeman.

Probable Cause:

1. Excessive number of cars being humped caused derailment.
2. _____
3. _____

Other Factors:

1. Failure to vacate position due to use of alcohol
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Struck by train
2. _____

Property Losses:

Railroad: \$2,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-66

Reported by: De Queen and Eastern RR Co. Brief of Railroad No.: FTW84FR022

Location: Dierks, Arkansas Time: 1300 CST Date: 03/02/84 Weather: Cloudy Visibility: Day/2,000 ft.

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>De Queen and Eastern RR Co.</u>	<u>Local freight</u>	<u>West</u>	<u>En route</u>	<u>1</u>
2	<u>De Queen and Eastern RR Co.</u>	<u>Single car</u>	<u>East</u>	<u>Unattended/storage</u>	<u>1</u>
3					

Accident Description: An empty flat car on a siding had been moved in order to remove debris from the track. The car soon started to roll down the sidetrack toward the main line where a freight train was moving by. A brakeman who was flagging at a nearby grade crossing ran behind the car in an attempt to get on it and set the handbrake. The car struck the side of the passing train and bounced backward, striking the brakeman and fatally injuring him.

Probable Cause:

1. Failure to set handbrake on unattended car.
2. Error in judgment
3. _____

Other Factors:

1. _____
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	

Probable Cause of Casualty:

1. Struck by train
2. _____

Property Losses:

Railroad: \$1,000
Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-81

Reported by: Greater Cleveland Regional Transit Auth. Brief of Railroad No.: NYC84FR020
 Location: Cleveland, Ohio Time: 2125 EST Date: 04/16/84 Weather: Clear Visibility: Dark/1,000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Greater Cleveland Regional Transit Authority Passenger transit West En route 1
 2 _____
 3 _____

Accident Description: Two signal maintainers were working on the relay case at the 49th Street crossovers to correct a malfunctioning signal. After closing the signal case, they crossed the 2 tracks to pick up their tools and return to headquarters. Commuter trains were approaching on both tracks. The westbound train (No. 811) made a sudden stop and one signalman saw the other man had been struck and fatally injured. The train operator had seen the signalman on the track but could not stop in time.

Probable Cause: 1. Failure to detect approaching train due to distraction of other train.
 2. _____
 3. _____
 Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty: 1. Struck by train
 2. _____

Property Losses:
 Railroad: - 0 -
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-142

Reported by: Greater Cleveland Rapid Transit Authority Brief of Railroad No.: CHI-84-F-ROLL
 Location: Cleveland, Ohio Time: 0702 EDT Date: 09/10/84 Weather: N/A Visibility: Tunnel/100 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Greater Cleveland Rapid Transit Auth. Passenger transit East Enroute 5
 2 Greater Cleveland Rapid Transit Auth. Passenger transit West Standing in yard 6
 3 _____

Accident Description: A Light Rail Vehicle (LRV) passenger train, consisting of 2 self-propelled passenger cars, struck the side of a standing LRV train in the underground station at Cleveland Union Terminal. The second train was waiting to go to the shop and had no passengers aboard. No one was injured on the first train, No. 6702. The operator of No. 6702 had just started up to depart the station and went through a switch into the side of the standing train at an estimated speed of 20 mph. The operator was witnessed adjusting the rear view mirror at the time. There is no automatic signal system in the area. The maximum allowable speed is 5 mph.

Probable Cause:

1. Failure to control speed of train
2. Distraction from other events
3. _____

Other Factors:

1. Limited sight distance
2. Lack of automatic block signal system

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>-0-</u>	_____		<u>-0-</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$60,000
 Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Illinois Central Gulf Railroad Brief of Railroad No.: DEN85FR004

Location: Higbee, Missouri Time: 0500 CDT Date: 10/25/84 Weather: Cloudy Visibility: Dark/760 FT

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Illinois Central Gulf Railroad</u>	<u>Freight</u>	<u>East</u>	<u>En route</u>	<u>1</u>
2	<u>Illinois Central Gulf Railroad</u>	<u>Freight</u>	<u>West</u>	<u>En route</u>	<u>1</u>

Accident Description: Illinois Central Gulf Railroad Company eastbound train, third No. 92, and westbound train, second No. 91, collided head-on at mile post 367.9 about six miles west of Higbee, Missouri. The train dispatcher had elected to operate three sections of No. 92 and two sections of No. 91. He arranged, by train order instructions, for second 92 and second 91 to meet at Centralia, Missouri. He also instructed the crew of second 92 to display green signals on the front of the lead locomotive to signify a following section (third 92). The crew of second 92 failed to display the green signals when second 92 and second 91 met at Centralia. The crew of second 92 failed to sound the proper whistle signal as required by ICC Operating Rule 14K at the meeting point to call the attention of the crew of second 91 that there would be another second of No. 92 to follow. The crew of second 91 proceeded on westbound from Centralia without any knowledge that there would be a third 92 operating. The two locomotives of third 92 and two locomotives and ten head cars of second 91 were derailed.

Probable Cause: 1. Failure of a crew to display proper signals on the locomotive to signify a following train
2. Failure of engineer to use proper whistle signal

Other Factors: 1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____

Probable Cause of Casualty:

1. _____

Property Losses:

Railroad: \$552,000

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-148

Reported by: Indiana Harbor Belt Railroad Brief of Railroad No.: CHI-85-F-R001

Location: La Grange, Illinois Time: 0512 CDT Date: 10/04/84 Weather: Clear Visibility: Dark/590 Ft.

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Indiana Harbor Belt Railroad</u>	<u>Freight</u>	<u>East</u>	<u>Enroute</u>	<u>2</u>
2	<u>Baltimore & Ohio Chicago Terminal Railroad Company</u>	<u>Freight</u>	<u>East</u>	<u>Standing</u>	<u>2</u>
3					

Accident Description: Indiana Harbor Belt (IHB) train No. BP-6 collided with the rear of Baltimore & Ohio Chicago Terminal (BOCT) train No. 209. Train 209 was stopped due to air hose problems. The caboose of train 209 was unoccupied and was destroyed. Two locomotive units and one car of BP-6 derailed and the caboose and one car of 209 derailed. Estimated speed at collision was 5 mph. There were no casualties.

Probable Cause:

1. Failure to comply with Railroad Operating Rule No. 93 (restricted speed)
2. Failure of train No. 209 to provide flag protection at rear
3. _____

Other Factors:

1. BOCT train did not have IHB radio frequency
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>0</u>	_____		<u>0</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$96,000

Non-Railroad: 0

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

83-34

Reported by: Kansas City Southern Ry Co. Brief of Railroad No.: DEN85FR011
 Location: Noel, Missouri Time: 1150 CST Date: 01/21/83 Weather: Snow Visibility: Day/2000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Kansas City Southern Ry Co. Freight Unit Train South En route 1
 2 _____
 3 _____

Accident Description: Freight unit train No. Extra 661 South had 20 cars derail. The train consisted of 4 locomotive units, 112 cars, and 3 remote controlled locomotive units. A joint bar broke that was holding together a previously broken rail at the point of derailment.

Probable Cause:

1. Broken joint bar at previous rail break.
2. _____
3. _____

Other Factors:

1. _____
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$804,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-138

Reported by: Long Island Railroad (The) Brief of Railroad No.: NYC-84-EX031
 Location: Babylon, New York Time: 1225 EDT Date: 05/24/84 Weather: Clear Visibility: Day/1,000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Long Island Railroad (The) Passenger Commuter East Enroute 2
 2 _____
 3 _____

Accident Description: Passenger commuter train No. 112 was crossing over from a main track to a station track when the 6th car derailed and struck a station platform. The train consisted of 10 self-propelled passenger cars. Signal maintainers were working on nearby rail joints and one of them improperly wired a relay switch so that the train could cross over without signal protection. While the train moved through the crossover switch, a block operator operated the switch, causing the train to derail. The block operator had requested the signal maintainer to improperly "jump" the protective relay devices.

Probable Cause:

1. Failure of block operator and signal maintainer to comply properly with signal procedures.
2. _____
3. _____

Other Factors:

1. _____
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>-0-</u>	_____		<u>-0-</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$1,248,000
 Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-100

Reported by: Massachusetts Bay Transit Authority Brief of Railroad No.: NYC84FR024
 Location: Boston, Massachusetts Time: 0643 EDT Date: 06/11/84 Weather: N/A Visibility: Tunnel/100 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Massachusetts Bay Transit Authority Passenger transit North En route 2
 2 _____
 3 _____

Accident Description: Subway train No. 1448, consisting of 4 subway cars, struck a displaced third rail in a river tunnel. A small fire broke out due to electric arcing between the train and the third rail. The damaged third rail resulted in a loss of power. Train 1448 and another train were stalled in the tunnel, resulting in 1600 passengers being evacuated. Earlier that morning, a track crew had tamped and realigned 500 feet of track in that area. An improperly installed track insulator was discovered at the site of the arcing and fire. Two trains preceding train 1448 had contact shoes broken off while passing the site.

Probable Cause:

1. Improper installation of third rail pedestal insulator.
2. _____
3. _____

Other Factors:

1. Failure to properly inspect third rail.
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$4,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-51

Reported by: Metro-North Commuter RR Brief of Railroad No.: NYC84FR013

Location: New York City, New York Time: 0821 EST Date: 01/30/84 Weather: N/A Visibility: Tunnel/500 ft.

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Metro-North Commuter RR</u>	<u>Locomotive</u>	<u>South</u>	<u>En route</u>	<u>33 (Ladder I)</u>
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

Accident Description: Two diesel locomotive units were being moved under Grand Central Terminal when a switch was thrown as they passed over it. Both units derailed. One struck a column, rupturing a locomotive fuel tank and starting a fire. The New York City Fire Department responded within 2 minutes. Dense smoke filled the tunnels. About 2,000 passengers were evacuated from 4 trains trapped in the tunnel behind the burning locomotive. The one locomotive unit was destroyed by fire. A New York state law prohibits the use of combustion engines under Park Avenue, but Metro-North runs diesel locomotives there. The New York City Fire Department has expressed their concern over this.

- 33 -

Probable Cause:

1. Inadequate system design - insufficient fail-safe times in operation of signals and switches
2. _____
3. _____

Other Factors:

1. _____
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>10</u>	<u>Employees on duty (minor injuries)</u>
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Smoke inhalation
2. Falling

Property Losses:

Railroad: \$870,000
Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Metropolitan Atlanta Rapid Transit Auth. Brief of Railroad No.: ATL85FR004
 Location: Atlanta, Georgia Time: 0020 EST Date: 12/03/84 Weather: Rain Visibility: Dark/1,000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Metro. Atlanta Rapid Transit Authority Passenger transit West Movement in yard 2
 2 _____
 3 _____

Accident Description: Rapid transit train No. 103, consisting of 4 multiple-unit cars, ran off the end of the track about 1,000 feet west of the Hightower Station. The lead car ran through a sand pile that is a momentum attenuator to stop runaway trains. The two lead cars derailed. Speed of the train was estimated to be 25 mph. All passengers had disembarked at the Hightower Station. The train operator had been taking Dimetane, a prescription decongestant that should not be taken when operating machinery or vehicles.

Probable Cause:

1. Human failure - operator not alert due to effects of antihistimine
2. _____
3. _____

Other Factors:

1. _____
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	- 0 -	_____		- 0 -	_____
		_____			_____
		_____			_____
		_____			_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$420,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-160

Reported by: Missouri Pacific RR Co. Brief of Railroad No.: CH185FR003

Location: South Holland, Illinois Time: 1510 CST Date: 11/03/84 Weather: Clear Visibility: Day/5,000 ft.

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Missouri Pacific RR Co.</u>	<u>Yard/switching</u>	<u>South</u>	<u>Makeup/breakup</u>	<u>15</u>
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

Accident Description: A carman fell from a yard train and was fatally injured when the train ran over him. He was attempting to walk from a departing freight train to the yard office when the yard train, consisting of a switch engine and 47 cars, came by and blocked his path. He climbed onto the moving cut of cars and fell on the track. The speed of the yard train was about 3 mph.

Probable Cause: 1. Failure to comply with Safety Rule No. 1075 (Employees boarding moving trains)

2. _____

3. _____

Other Factors: 1. _____

2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty: 1. Struck by train

2. _____

Property Losses: Railroad: - 0 -

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-175

Reported by: Missouri Pacific Railroad Co. Brief of Railroad No.: FTW-85-FR003

Location: Cotter, Arkansas Time: 0220 CST Date: 12/30/84 Weather: Cloudy Visibility: Dark/2,000 ft.

Train:	Class:	Direction:	Operating Phase:	Track No.:
1 <u>Missouri Pacific Railroad Co.</u>	<u>Freight Unit Train</u>	<u>South</u>	<u>Enroute</u>	<u>1</u>
2 _____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____

Accident Description: Unit coal train No. MP-CN1-28, consisting of 5 locomotive units and 114 cars, had the five-unit locomotive and 29 cars derail when the train struck track that was damaged by a rockslide. Some large boulders had broken loose from a bluff and rolled down across the track. The speed of the train was 39 mph. Five inches of rain had fallen in the previous week.

Probable Cause:

1. Damage from natural forces - large boulders rolled across track
2. Earth slide, moisture related
3. _____

Other Factors:

1. _____
2. _____
3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>-0-</u>	_____		<u>-0-</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____
3. _____

Property Losses:

Railroad: \$1,364,000

Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

83-112

Reported by: New York City Transit Authority Brief of Railroad No.: NYC83ER040
 Location: New York City, New York Time: 0653 EDT Date: 07/20/83 Weather: N/A Visibility: Tunnel/-0- ft
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 New York City Transit Authority Passenger transit South En route 2
 2 _____
 3 _____

Accident Description: Subway train No. Pelham 625 reported smoke issuing from the train at 125th Street Station. The passengers were off-loaded and the train went on to 116th Street, then was backed into a tunnel spur track. After a series of problems, the fire got worse under the train. The tunnels and the 125th Street Station started to fill with thick smoke. The fire and smoke had been made worse by the continued operation of the train resulting in continued flow of electrical current through the burning motor controls. The New York City Fire Department was not called until 29 minutes after the first report of smoke in the train. It took until 0815 for the firemen to start extinguishing the fire. During this time, trains continued to be operated through the smoke-filled tunnel.

Probable

Cause: 1. Failure of primary circuit controls in motor control group.
 2. _____
 3. _____

Other

Factors: 1. Inadequate maintenance of motor control group.
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
 2. _____

Property Losses:

Railroad: \$40,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

83-116

Reported by: New York City Transit Authority Brief of Railroad No.: NYC830R015
 Location: Bronx, New York Time: 0945 EST Date: 03/05/83 Weather: Clear Visibility: Day/1,000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 New York City Transit Authority Passenger Transit South En route 2
 2 _____
 3 _____

Accident Description: A subway train, consisting of 10 cars, had the 5 rear cars derail while entering the Jackson Street Station on the IRT White Plains Line. At this location, the train is on an elevated structure. Passengers were off-loaded onto the platform through the head cars. 350 feet of the west rail was overturned. The track gage had widened due to broken elevation blocks and worn rails. This condition had been reported on January 1, 1983, in a "Trackwalker's Immediate Action Report." The only corrective action taken at that time was to place a turnbuckle on the rails and re-rake them.

Probable Cause: 1. Inadequate maintenance condoned by management.
 2. _____
 3. _____

Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
 1. _____
 2. _____

Property Losses:
 Railroad: \$12,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-69

Reported by: New York City Transit Authority Brief of Railroad No.: NYC84FR017
 Location: Queens, New York Time: 0213 EST Date: 03/03/84 Weather: Cloudy Visibility: Dark but lighted/500 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 New York City Transit Authority Passenger Transit North En route 4
 2 _____
 3 _____

Accident Description: The conductor of an "A" subway train was fatally injured when he fell from a station platform and was struck by the train. The conductor had closed the train doors from outside the train and the operator started the train out of the station. The conductor apparently tried to board the moving train between the 4th and 5th cars and fell under the train. The train was being operated under an unauthorized procedure by the operator and conductor, using the door closing as a signal to start. It is not known why the conductor closed the train doors while he was outside on the platform.

Probable Cause:

1. Failure to comply with NYCTA Rule 39 (procedure for starting a train out of a terminal).
2. Conductor attempted to board moving train between cars.
3. _____

Other Factors:

1. _____
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Struck by train
2. _____

Property Losses:

Railroad: - 0 -
 Non-Railroad: - 0 -

84-106

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: New York City Transit Authority Brief of Railroad No.: NYC84FR026

Location: New York City, New York Time: 1536 EDT Date: 06/23/84 Weather: N/A Visibility: Tunnel/700 ft.

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>New York City Transit Authority</u>	<u>Passenger Transit</u>	<u>North</u>	<u>En route</u>	<u>3</u>
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

Accident Description: A signal maintainer, working in the subway tunnel north of Times Square Station, called the signal department supervisor to say he was going to check a track fire. A train was departing Times Square when the operator saw the signal maintainer step out from behind a column onto the track in front of the train. The man was struck and fatally injured.

Probable Cause: 1. Failure of employee to detect approaching train

2. _____

3. _____

Other Factors: 1. _____

2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Struck by train

2. _____

Property Losses:

Railroad: - 0 -

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-109

Reported by: New York City Transit Authority Brief of Railroad No.: NYC8459027
 Location: Bronx, New York Time: 0234 EDT Date: 06/28/84 Weather: N/A Visibility: Tunnel/1,000 ft
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 New York City Transit Authority Passenger Transit South En route 3
 2 _____
 3 _____

Accident Description: A 10-car "D" subway train was moving through the tunnel under the Harlem River on its way from the Bronx to Manhattan. The train passed a track gang in the tunnel when one of the trackmen fell against the 6th car and was later found under the 7th car, fatally injured. The speed of the train was 10 mph.

Probable Cause: 1. Trackman fell against passing train.
 2. _____
 3. _____

Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
 1. Struck by train
 2. _____

Property Losses:
 Railroad: - 0 -
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-161

Reported by: New York City Transit Authority

Brief of Railroad No.: NYC-85-FR003

Location: New York City, New York (110th St. Station)

Time: 0901 EST

Date: 11/07/84

Weather: N/A

Visibility: Tunnel/500 ft.

Train:	Class:	Direction:	Operating Phase:	Track No.:
1 <u>New York City Transit Authority</u>	<u>Passenger Transit</u>	<u>South</u>	<u>En route</u>	<u>2</u>
2 _____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____

Accident Description: A 14-year-old male was riding between the 9th and 10th car of a 10-car subway train. As the train was leaving 110th Street Station, he leaned over to pick up a bag and fell between the cars. A passenger pulled the conductor's emergency valve in the 9th car, setting the trains brakes in emergency. Emergency forces responded promptly, but the person was fatally injured. There are signs on the car end doors warning: "Do not use. More passengers are killed between cars than any other subway accident."

- Probable Cause:**
1. Failure of person to recognize unauthorized position on car as hazardous
 2. Willful act of individual
 3. _____
- Other Factors:**
1. _____
 2. _____
 3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Passenger</u>		<u>-0-</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

- Probable Cause of Casualty:**
1. Struck by train
 2. _____
 3. _____

Property Losses:

Railroad: -0-

Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

83-53

Reported by: Norfolk and Western Ry Co. Brief of Railroad No.: NYCR3LR014
 Location: Detroit, Michigan Time: 2330 EST Date: 10/18/82 Weather: Cloudy Visibility: Dark/500 ft
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Norfolk and Western Ry Co. Yard/switching West Makeup/breakup 19
 2 _____
 3 _____

Accident Description: A switchman was struck by his train and fatally injured while switching cars in the Detroit Union Produce Terminal Yard. Nobody witnessed the accident. The conductor found the switchman under a box car during a switching move. The conductor had seen him a few minutes earlier walking near the cars being switched. The switching moves were being conducted by hand signals and lanterns.

Probable Cause:

1. Failure of switchman to recognize improper operating procedures as hazardous
 2. _____
 3. _____
- Other Factors:
1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Struck by train
2. _____

Property Losses:

Railroad: - 0 -
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-98

Reported by: Norfolk and Western Railway Co. Brief of Railroad No.: CHI-84-E-8005
 Location: Naples, Illinois Time: 1623 CDT Date: 06/10/84 Weather: Clear Visibility: Day/9,000 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Norfolk and Western Railway Co. Freight West Enroute 1
 2 _____
 3 _____

Accident Description: Freight train No. 7/SC-01, consisting of 3 locomotive units and 101 cars, had the 3 units and 29 cars derail while moving 40 mph on a fill next to the Illinois River. The river was 5 feet above flood stage at the time and later analysis revealed disturbance to the roadbed due to water saturation and large root masses.

Probable

- Cause: 1. Damage to fill from natural forces
 2. Ground water saturation and erosion of fill
 3. Roadbed settlement

Other

- Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>0</u>	_____		<u>5</u>	<u>Employees on duty</u>
	_____	_____		<u>2</u>	<u>Vagrants on train</u>
	_____	_____		_____	<u>(all minor injuries)</u>
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
 2. _____

Property Losses:

Railroad: \$878,000
 Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-159

Reported by: Norfolk and Western Railway Brief of Railroad No.: CHI-85-F-R002
 Location: Taylorville, Illinois Time: 0505 CST Date: 10/31/84 Weather: Rain Visibility: Dark/800 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Norfolk and Western Railway Freight South Enroute 1
 2 _____
 3 _____

Accident Description: An automobile with 2 occupants missed a grade crossing and the vehicle got hung up on the track. They were unable to back the car up onto the pavement. Freight train No. 4/DA-01, consisting of 2 locomotive units and 117 cars, struck the vehicle and drug it to a nearby switch where the vehicle caught on a facing throwing lever of a switch stand, derailing the 2 units and 14 cars, plus 4 cars standing on adjacent tracks. The driver of the automobile was arrested and charged with driving under the influence of alcohol, illegal transportation of liquor and leaving the scene of an accident. The train speed at impact was about 20 mph.

Probable Cause: 1. Error in judgment (vehicle operator) due to use of alcohol
 2. _____
 3. _____
 Other Factors: 1. Switch stand throwing lever was facing rather than trailing
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	-0-	_____		-0-	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
 1. _____
 2. _____

Property Losses:
 Railroad: \$697,000
 Non-Railroad: \$10,000

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: St. Louis Southwestern Railway Company Brief of Railroad No.: FTW-84-FR025

Location: Malakoff, Texas Time: 1120 CST Date: 03-30-84 Weather: Clear Visibility: Day/3,000 feet

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>St. Louis Southwestern Railway Company</u>	<u>Freight</u>	<u>West</u>	<u>Enroute</u>	<u>1</u>
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

Accident Description:

Tractor trailer dump truck drove onto grade crossing with railroad crossing signs and was struck by train, resulting in derailment of 3 locomotives and 24 cars; fire; fatality; release of hazardous materials; evacuation of over 300 persons.

Probable Cause:

1. Truck driver saw train too late and drove onto tracks in front of train
2. _____
3. _____

Other Factors:

1. _____
2. _____
3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Public on RR Property (Truck driver)</u>		<u>0</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Train struck truck
2. _____
3. _____

Property Losses:

Railroad: \$4,700,000

Non-Railroad: 30,000

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-91

Reported by: St. Louis Southwestern Railway Co Brief of Railroad No.: FTW-84-F-R027
 Location: Bucklin, Kansas Time: 1810 CDT Date: 05/1084 Weather: Clear Visibility: Day/2,200 fr.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 St. Louis Southwestern Railway Co. Freight East Enroute 1
 2 _____
 3 _____

Accident Description: Freight train No. 01-BKESP-08, consisting of 7 locomotive units and 92 cars, had 50 cars derail while moving about 60 mph. The train was moving through the bottom of a vertical curve. The track had just been raised 2 inches and ballast surfaced the preceding day.

Probable Cause: 1. Damage to alinement due to excessive buff forces
 2. Failure of alinement due to previous repair
 3. _____

Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>0</u>	_____		<u>0</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
 1. _____
 2. _____

Property Losses:
 Railroad: \$1,600,000
 Non-Railroad: 0

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-152

Reported by: Seaboard System Brief of Railroad No.: ATL85FR001

Location: Rocky Mount, North Carolina Time: 2215 EST Date: 10/11/84 Weather: Clear Visibility: Dark/2000 FT

Train:	Class:	Direction:	Operating Phase:	Track No.:
1 <u>Seaboard System</u>	<u>Yard/switching</u>	<u>South</u>	<u>Other movement in yard</u>	<u>1</u>
2 _____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____

Accident Description:

A hostler was attending switches for a three unit locomotive movement. While waiting for a yard crew to clear the switching lead, the hostler walked away from the switch he was to attend. The hostler was standing next to the east yard switching lead when the Y205 yard crew with a GP16 type locomotive, with the long hood end forward, struck the hostler, causing fatal injuries. Crew Y209 tried to warn the hostler by blowing the locomotive whistle, yelling and waving their lamps. BAC analysis of the hostler's blood and urine samples were negative.

Probable Cause: 1. Failure of the hostler to properly comply with carriers operating Rule M --
 2. _____
 3. _____
 (being alert to moving trains)

Other Factors: 1. _____
 2. _____
 3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. Struck by locomotive

2. _____

3. _____

Property Losses:

Railroad: - 0 -

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Seaboard System RR Inc. Brief of Railroad No.: ATL85FR003

Location: Allenton, North Carolina Time: 0755 EST Date: 11/10/84 Weather: Clear Visibility: Day/9990

Train:	Class:	Direction:	Operating Phase:	Track No.:
1 <u>Seaboard System RR Inc.</u>	<u>Freight</u>	<u>West</u>	<u>En route</u>	<u>1</u>
2 _____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____

Accident Description: Seaboard System Railroad, Inc. train had 12 cars derail in Allenton, N.C. The derailed cars involved 4 tank cars containing methanol which were damaged, leaking their contents which ignited. The derailed cars also included a tank car containing fuel oil and another tank car containing sulphuric acid, neither of which leaked. Several local fire departments responded and the fire was extinguished. There was no personal injury. Approximately 125 persons were evacuated.

Probable Cause:

1. Broken rail.
2. _____
3. _____

Other Factors:

1. _____
2. _____
3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____
3. _____

Property Losses:

Railroad: \$440,000

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

83-78

Reported by: Soo Line RR Co. Brief of Railroad No.: NYC83FR022
 Location: Armstrong Creek, Wisconsin Time: 1330 EST Date: 04/25/83 Weather: Clear Visibility: Day/1,000 ft
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Soo Line RR Co. Freight East En route 1
 2 _____
 3 _____

Accident Description: Freight train No. 912, consisting of 2 locomotive units and 100 cars, had the 29th through 58th car derailed (30 cars) while moving through a 2-degree right hand curve at a speed of 41 mph. The bottom outlet of a derailed tank car was damaged and 12,000 gallons of fuel oil leaked into a nearby creek.

Probable Cause: 1. Improper train handling caused severe buff forces.
 2. _____
 3. _____
 Other Factors: 1. _____
 2. _____

Facilities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
 1. _____
 2. _____

Property Losses:
 Railroad: \$844,000
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-153

Reported by: Southeastern Pennsylvania Transp. Auth.

Brief of Railroad No.: NYC-84-FR002

Location:

Philadelphia, Pennsylvania

Time:

0611 EDT

Date:

10/16/84

Weather:

Clear

Visibility:

Dark/1,000 ft.

Trains:

1 Southeastern Pennsylvania Transp. Auth.

Class:

Passenger
Transit

Direction:

North

Operating Phase:

Enroute

Track No.:

1

2

3

Accident Description:

Trolley Car No. 2120 was moving north on Germantown Avenue when it derailed and struck an automobile that was southbound. The automobile driver was fatally injured. Two trolley cars had derailed at the same area in the preceding two weeks. Prior to that, the street had been rebuilt. During construction, the track geometry of the trolley line had been disturbed. The trolley speed is unknown.

Probable Cause: 1. Damage to track alignment from construction activity.
2. _____
3. _____

Other Factors: 1. _____
2. _____
3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Automobile driver</u>		<u>1</u>	<u>Trolley operator - minor</u>
	_____	_____		<u>1</u>	<u>Passenger - minor</u>
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
1. Trolley car collided with automobile
2. _____
3. _____

Property Losses:
Railroad: \$1,000
Non-Railroad: \$8,000

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-108

Reported by: Southeastern Pennsylvania Transp. Auth.

Brief of Railroad No.: NYC-84-FR006

Location:

Narberth, Pennsylvania

Time:

0815 EST

Date:

11/21/84

Weather:

Clear

Visibility:

Day/400 ft.

Train:

1 Southeastern Pennsylvania Transp. Auth.

Class:

Passenger

Direction:

West

Operating Phase:

Backing Up

Track No.:

1

2 Southeastern Pennsylvania Transp. Auth.

Commuter

East

Enroute

1

3 _____

Commuter

Accident Description:

Commuter Train No. 008 was moving eastbound toward Philadelphia when it overshot the Haverford Station in Narberth. The train then backed toward the station. As the train was backing through a curve near the station, Train No. 310 was coming through the station area and struck the rear of No. 008. No. 008 was backing at about 20 mph and No. 310 was moving about 10 mph. The engineer of No. 310 called to No. 008 on the radio to stop, and both trains made emergency brake applications. Almost simultaneously, a passenger attendant riding in the rear of No. 008 saw No. 310 and signalled the engineer of No. 008 to make an emergency stop. Estimates of how far No. 008 had initially run past the station varied from 400 feet to over 3,200 feet.

Probable Cause: 1. Failure of crew train No. 008 to provide a flagman while backing.

2. _____

3. _____

Other

Factors: 1. _____

2. _____

3. _____

Fatalities:

Number:

-0-

Description:

Injuries:

Number:

2

Description:

Employees on duty

3

Passengers - hospitalized

204

Passenger - minor

Probable Cause of Casualty:

1. Thrown from seat/position in collision

2. _____

3. _____

Property Losses:

Railroad: \$150,000

Non-Railroad: -0-

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Southern Pacific Transportation Company

Brief of Railroad No.: FTW-83-FR032

Location:	Time:	Date:	Weather:	Visibility:
<u>Houston, Texas</u>	<u>2010 CDT</u>	<u>08-11-83</u>	<u>Cloudy</u>	<u>Day/5000 ft</u>

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
<u>1</u>	<u>Southern Pacific Transportation Company</u>	<u>Yard/switching</u>	<u>East</u>	<u>Makeup/breakup</u>	<u>10</u>
<u>2</u>	_____	_____	_____	_____	_____
<u>3</u>	_____	_____	_____	_____	_____

Accident Description:

Train 1 derailed 17 cars while moving through a yard. A tank car of formaldehyde was punctured. Over 60 persons were evacuated from nearby residences.

Probable Cause:

1. Train separated between 22nd and 23rd cars on grade. Train then ran together, causing derailment and puncture
2. _____
3. _____

Other Factors:

1. _____
2. _____
3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>0</u>	_____		<u>0</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____
3. _____

Property Losses:

Railroad: \$57,000

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

83-147

Reported by: Southern Pacific Transportation Co. Brief of Railroad No.: FTW83FR037
 Location: _____ Time: _____ Date: _____ Weather: _____ Visibility: _____
Houston, Texas 2145 CDT 09/16/83 Clear Dark/1,500 ft.
 Train: Railroad: Class: Direction: Operating Phase: Track No.:
 1 Southern Pacific Transportation Co. Yard/switching West Makeup/breakup 2
 2 _____
 3 _____

Accident Description: The conductor of a yard train was fatally injured when his train ran over him while making switching movements in the Deer Park industrial area. He was 57 year old with 35 years of service. The yard job was a regular night job for the crew. Nobody witnessed the accident, but it was believed he fell off the lead end of a moving cut of cars while attempting to set a handbrake.

Probable Cause: 1. Error in judgment
 2. Failure to have proper position on car
 3. _____
 Other Factors: 1. _____
 2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty: 1. Fell under train
 2. _____

Property Losses:
 Railroad: - 0 -
 Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-57

Reported by: Southern Pacific Transportation Co.

Brief of Railroad No.: FTW-84-FR018

Location: Schriever, Louisiana Time: 0650 CST Date: 02/07/84 Weather: Clear Visibility: Dawn/2,000 ft.

Train:	Class:	Direction:	Operating Phase:	Track No.:
1 <u>Southern Pacific Transportation Co.</u>	<u>Freight</u>	<u>East</u>	<u>En route</u>	<u>2</u>
2 _____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____

Accident Description: Freight train No. 01-HOSOY-05, consisting of 6 locomotive units and 145 cars; had 4 trailing units and 50 cars derail while moving through a facing point switch at about 45 mph. The first 2 locomotive units went through the switch with no problem, but the switch then partly opened under the 3rd unit, starting the general derailment. The derailing cars knocked down part of an overhead highway bridge. A 36-foot railroad bridge was also destroyed. Twenty minutes before the derailment, another train crew lined and locked the switch, and observed the switch to be properly fitted.

Probable Cause: 1. Failure of switch points due to normal deterioration/wear
2. _____
3. _____

Other Factors: 1. _____
2. _____
3. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>-0-</u>	_____		<u>-0-</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
1. _____
2. _____
3. _____

Property Losses:
Railroad: \$1,336,000
Non-Railroad: \$210,000

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Southern Pacific Transportation Company Brief of Railroad No.: LAX85PR001

Location: Carpenteria, California Time: 1150 PDT Date: 10/04/84 Weather: Clear Visibility: Day/900 FT

Train: Railroad: Class: Direction: Operating Phase: Track No.:

1 Amtrak Passenger West En route 1

2 _____

Accident Description: Amtrak Train No. 13 traveling westbound on Southern Pacific Transportation Company Railroad tracks struck a vehicle stopped on the grade crossing on Sand Point Road at Carpenteria, CA. The two persons riding in the vehicle, mother and daughter ages 40 and 3 respectfully, were injured during the collision. The weather was clear with a temperature of 75 degrees (F). The train was traveling at approximately 53 mph when the engineer viewed an automobile on the grade crossing approximately 1/4 mile ahead of the train. The train's whistle and engine bell were being sounded for the crossing.

Probable Cause: 1. Failure of motorists to stop at protected grade crossing.

2. _____

Other Factors: 1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>1</u>	<u>Driver of auto</u>
	_____	_____		<u>1</u>	<u>Passenger in auto</u>

Probable Cause of Casualty:

1. Train struck car

2. _____

Property Losses:

Railroad: \$3,000

Non-Railroad: \$35,000

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-163

Reported by: Texas, Oklahoma & Eastern RR Co. Brief of Railroad No.: FTW85FR002

Location: Valliant, Oklahoma Time: 1230 CST Date: 11/15/84 Weather: Cloudy Visibility: Day/4,000 ft.

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Texas, Oklahoma & Eastern RR Co.</u>	<u>Single car</u>	<u>North</u>	<u>Unloading</u>	<u>4</u>
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

Accident Description: A maintenance -of-way employee was crushed between 2 cars in the woodchip car yard at a paper mill while performing his duties as a coupler/oiler. He was supposed to oil car bearings and couple cars while empty cars were being rolled into the yard. This is in violation of the "Blue Flag" rule of the Code of Federal Regulations, 49 CFR 218.27. After the accident, the railroad changed its operations to discontinue car oiling in the chip car yard and to provide blue flag protection where cars are being coupled.

Probable Cause: 1. Failure to comply with Federal Operating Rule 49 CFR 218.27 (Blue Flag protection).
2. Failure to detect approaching car.
3. _____

Other Factors: 1. Undertook risks condoned by management.
2. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>1</u>	<u>Employee on duty</u>		<u>- 0 -</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
1. Struck by train
2. _____

Property Losses:
Railroad: - 0 -
Non-Railroad: - 0 -

84-170

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Union Pacific Transportation Company Brief of Railroad No.: DEN85FR008

Location: Oshkosh, Nebraska Time: 1120 MST Date: 12/09/84 Weather: Cloudy Visibility: Day/5000 FT

Train: 1 Union Pacific Transportation Company Railroad: Unit freight Class: East Direction: En route Operating Phase: 1 Track No.:

2 _____

Accident Description: Train No. BMJKC 255 departed Northport, Nebraska, at 1030 on December 9, 1984, bound for North Platte, Nebraska. The crewmembers stated that they were unaware of any problems with the train until an unwanted application of the train's automatic air brakes occurred. The train's speed at this time was 40 mph. After the train stopped, the head end crew found that the 8th through 44th head cars had derailed and were in various positions on the track structure. Car UP 34373, the 8th head car, derailed when the L-1 axle broke on the journal end, damaging the track structure. The damage included 4 switches, and the following 35 cars derailed.

Probable Cause: 1. Failed roller bearing due to excessive heat.
2. _____

Other Factors: 1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____

Probable Cause of Casualty:
1. _____
2. _____

Property Losses:
Railroad: \$861,000
Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

Reported by: Union Pacific Railroad Company Brief of Railroad No.: LAX85FR002

Location: LaGrande, Oregon Time: 1120 PST Date: 12/15/84 Weather: Snow Visibility: Day/1000 FT

Train: Railroad: Class: Direction: Operating Phase: Track No.:

1 Amtrak Passenger West En route 1

2 _____

Accident Description: One locomotive, one baggage car and two passenger cars, comprising the entire consist of westbound Amtrak passenger train No. 25, derailed at mile post 283.5. There were 118 passengers and 5 crew members on board at the time of the accident. There were no injuries. The locomotive recorded a speed of 38 mph. The maximum authorized speed is 25 mph. The train derailed while attempting to round a 7 degree seven minute right hand curve. The outside rail of the curve rolled over to the outside and the wheels of the rear truck of the locomotive dropped between the rails.

Probable Cause:

1. Failure of personnel to recognize improper operating procedure as hazardous (excessive speed)
2. Ambiguous or unclear instructions given
3. Lack of compliance with railroad operating rules
4. Lack of compliance with timetable special instruction

Other Factors:

1. _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>- 0 -</u>	_____		<u>- 0 -</u>	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

1. _____
2. _____

Property Losses:

Railroad: \$26,000

Non-Railroad: - 0 -

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

84-172

Reported by: Union Pacific Railroad Company Brief of Railroad No.: LAX-85-F-R003

Location: Cobbs, Idaho Time: 0115 MST Date: 12/17/84 Weather: Fog Visibility: Dark/500 ft.

Train:	Railroad:	Class:	Direction:	Operating Phase:	Track No.:
1	<u>Union Pacific Railroad Co.</u>	<u>Freight Unit Train</u>	<u>West</u>	<u>Enroute</u>	<u>1</u>
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

Accident Description: Train No. 02-W T V-075, consisting of 4 locomotive units and 74 cars, had 18 cars derail that were loaded with grain. The derailed cars were the 48th through 65th cars. The speed of the train was 47 mph. A wheel on the 48th car had broken about 3 miles before the derailment site, but the crew could not see it due to darkness and dense fog.

Probable Cause:

1. Broken wheel
- _____
- _____

Other Factors:

- _____
- _____

Fatalities:	Number:	Description:	Injuries:	Number:	Description:
	<u>0</u>	_____		<u>0</u>	_____
	_____	_____		_____	_____
	_____	_____		_____	_____
	_____	_____		_____	_____

Probable Cause of Casualty:

- _____
- _____

Property Losses:

Railroad: \$864,000

Non-Railroad: -0-