NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20594

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Washington, D.C. 20594

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Washington, D. C. 20594

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41 U.S. Railroad Accidents occurring between 7/1/83 & 10/31/83 and some from prior quarters

**14. Sponsoring Agency Code**

**15. Supplementary Notes**

**16. Abstract**
This publication contains briefs of selected railroad accidents occurring in U.S. Railroad operations during calendar 1981. 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:

| 82-201 | 83-107 through 111 |
| 82-224 and 225 | 83-113 through 115 |
| 82-302 | 83-124 |
| 83-52 | 83-126 through 132 |
| 83-70 | 83-134 |
| 83-94 | 83-136 through 146 |
| 83-104 and 105 | 83-148 |
| 83-150 and 151 | 83-153 |

**17. Key Words**
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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 41 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 former eight railroad field offices and the District of Columbia. (See figure 1.) As of January 8, 1982 there were seven railroad field offices; as of April 2, 1932 there were four railroad field offices. 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 five 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.

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National Transportation Safety Board
Public Inquiries Section
Washington, D.C. 20594
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<th>TABLE OF CONTENTS</th>
</tr>
</thead>
<tbody>
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<td>TABLE OF CONTENTS</td>
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<td>STATISTICAL TABLES:</td>
</tr>
<tr>
<td>1. Accidents by Type and Railroad</td>
</tr>
<tr>
<td>2. Accidents by Type and State</td>
</tr>
<tr>
<td>3. Casualties by Type of Accident and Class of Person</td>
</tr>
<tr>
<td>4. Causal Factors by Accident Type</td>
</tr>
<tr>
<td>5. Causal Factors by Major Category and Accident Type</td>
</tr>
<tr>
<td>REPORTS OF ACCIDENTS</td>
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</table>
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 $156,000 or more to railroad and nonrailroad property; or
2. All accidents involving passenger trains.
Causes and Other Factors

In determining probable cause(s) of an accident, all facts, conditions, and circumstances are considered. The object is to ascertain those cause-effect relationships in the accident sequence about which action may be taken to prevent recurrence. Accordingly, for statistical purposes, where two or more causes or contributing factors exist in an accident, each is recorded with no attempt to establish a primary cause or factor. Therefore, in the causal factor tables, the figures shown may exceed the total number of accidents.
<table>
<thead>
<tr>
<th>REPORTING RAILROAD</th>
<th>COLLISION</th>
<th>DERAILMENT</th>
<th>EMPLOYEE FATALITY</th>
<th>PERSONAL FATALITY</th>
<th>GRADE CROSSING</th>
<th>TOTAL</th>
<th>MAX. INVOLVED (1)</th>
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<td>ATCHISON TOPEKA AND SANTA FE RY CO.</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>BOSTON &amp; MAINE CORP.</td>
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<td>CHATTANOOGA INDUSTRIAL RR</td>
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<td>CHICAGO AND NORTH WESTERN TRANS. CO.</td>
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<td>ILLINOIS CENTRAL GULF RR</td>
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<td>0</td>
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<td>0</td>
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<td>KANSAS CITY SOUTHERN RY CO.</td>
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<td>MASSACHUSETTS HAY TRANSPORTATION AUTH.</td>
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<td>0</td>
<td>1</td>
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<td>SOUTHERN PACIFIC TRANSP. CO.</td>
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<td>ST. LOUIS SOUTHWESTERN RY CO.</td>
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<td>UNION PACIFIC RR</td>
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<td><strong>TOTAL</strong></td>
<td><strong>3</strong></td>
<td><strong>20</strong></td>
<td><strong>4</strong></td>
<td><strong>0</strong></td>
<td><strong>2</strong></td>
<td><strong>29</strong></td>
<td></td>
</tr>
</tbody>
</table>

(1) NOT INCLUDED IN TOTAL RAILROAD ACCIDENTS/INCIDENTS INVESTIGATED
### Table 2:

**Accidents by State and Type**

*(Figures below represent a 6 month period)*

<table>
<thead>
<tr>
<th>State</th>
<th>Collision</th>
<th>Derailment</th>
<th>Employee Fatality</th>
<th>Personal Fatality</th>
<th>Grade Crossing</th>
<th>Total</th>
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<tbody>
<tr>
<td>Arizona</td>
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<td>0</td>
<td>0</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>20</strong></td>
<td><strong>4</strong></td>
<td><strong>0</strong></td>
<td><strong>2</strong></td>
<td><strong>29</strong></td>
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</tbody>
</table>

*(1) Not included in total railroad accidents/incidents investigated*
<table>
<thead>
<tr>
<th></th>
<th>Collision</th>
<th>Derailment</th>
<th>Personal Casualty</th>
<th>Grade Crossing</th>
<th>Total</th>
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<tr>
<td>RAILROAD EMPLOYEES</td>
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<tr>
<td>Fatalities</td>
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<td>5</td>
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<td>Injuries</td>
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<td>0</td>
<td>2</td>
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<tr>
<td>PASSENGERS</td>
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<tr>
<td>Fatalities</td>
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<td>Injuries</td>
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<td>GENERAL PUBLIC</td>
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<td>Fatalities</td>
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</table>

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>
<thead>
<tr>
<th>COMPONENT FAILURES:</th>
<th>COLLISION</th>
<th>DERAILMENT</th>
<th>EMPLOYEE FATALITY</th>
<th>PERSONAL FATALITY</th>
<th>GRADE CROSSING</th>
<th>TOTAL</th>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>FAILURE OF CAR/LOC0 BODY DUE TO NORMAL DETERIORATION/WEAR</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>FAILURE OF TRUCKS DUE TO NORMAL DETERIORATION/WEAR</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>FAILURE OF WHEELS DUE TO NORMAL DETERIORATION/WEAR</td>
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<td>PERSONAL FATALITY</td>
<td>GRADE CROSSING</td>
<td>TOTAL</td>
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<td>-------------------</td>
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<tr>
<td>Failure to perform procedure prescribed by RR operating rule</td>
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<td>0</td>
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<td>4</td>
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<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Failure to properly perform procedure prescribed by RR maintenance of way dept. employee safety rule</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Procedural failure (unspecified)</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Total (procedural failure)</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HUMAN FAILURES:</th>
<th>COLLISION</th>
<th>DERAILMENT</th>
<th>EMPLOYEE FATALITY</th>
<th>PERSONAL FATALITY</th>
<th>GRADE CROSSING</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure of personnel to recognize component malfunction as hazardous</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Collision</td>
<td>Derailment</td>
<td>Employee Fatality</td>
<td>Personal Fatality</td>
<td>Grade Crossing</td>
<td>Total</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>----------------</td>
<td>-------</td>
</tr>
<tr>
<td><strong>Human Failures:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure of personnel to recognize improper operating procedure as hazardous</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Use of drugs or intoxicants</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Inattentiveness to duties</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Lack of instruction/supervision</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Lack of information about the state of the system</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Error in judgment</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
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<tr>
<td>Failure of person to detect approaching train</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Failure of person to recognize position on track structure/right-of-way as hazardous</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Failure to stop at protected grade crossing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Human Failure (unspecified)</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total (Human Failures):</strong></td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>0</td>
<td>4</td>
<td>18</td>
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<tr>
<td><strong>Natural Forces:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extreme heat</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Collision</td>
<td>Derailment</td>
<td>Employee Fatality</td>
<td>Personal Fatality</td>
<td>Grade Crossing</td>
<td>Total</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------</td>
<td>------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>----------------</td>
<td>-------</td>
</tr>
<tr>
<td><strong>Natural Forces:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Damage by Natural Forces (Unspecified)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Total (Natural Forces)</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>System Design Inadequacies:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of or Inadequate Communications</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Lack of Adequate Instructions for Performing Necessary Train Operation Procedure</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Lack of Training in Performing Necessary Train Operation Procedure</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>1</td>
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<tr>
<td>Lack of Supervision of Maintenance of Way Procedure</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
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<tr>
<td>Grand Total</td>
<td>12</td>
<td>44</td>
<td>13</td>
<td>0</td>
<td>6</td>
<td>75</td>
</tr>
<tr>
<td>TABLE 5: CAUSAL FACTORS BY MAJOR CATEGORY AND ACCIDENT TYPE</td>
<td></td>
<td></td>
<td></td>
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</table>

(FIGURES BELOW REPRESENT A 3 MONTH PERIOD)

<table>
<thead>
<tr>
<th></th>
<th>COLLISION</th>
<th>DERAILMENT</th>
<th>EMPLOYEE FATALITY</th>
<th>PERSONAL FATALITY</th>
<th>GRADE CROSSING</th>
<th>TOTAL</th>
<th>MAJ. MATT. (1) INVOLVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRACK AND STRUCTURE DEFECTS</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
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<tr>
<td>EQUIPMENT FAILURES</td>
<td>0</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
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<tr>
<td>OPERATING PRACTICES</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>OTHER (2)</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3</strong></td>
<td><strong>20</strong></td>
<td><strong>4</strong></td>
<td><strong>0</strong></td>
<td><strong>2</strong></td>
<td><strong>29</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

(1) NOT INCLUDED IN TOTAL RAILROAD ACCIDENTS/INCIDENTS INVESTIGATED

(2) "OTHER" INCLUDES HUMAN FAILURE, 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
REPORTED BY: ANTRAK

LOCATION: BRISTOL, PENNSYLVANIA

TIME: 0235 EST

DATE: 03/29/82

WEATHER: CLEAR

VISIBILITY: DARK/1200 FT

TRAIN: 1 ANTRAK

CLASS: PASSENGER

RAILROAD: PASSENGER

DIRECTION: WEST

OPERATING PHASE: EN ROUTE

TRACK/NO: MAIN 001

TRAIN 2 AMTRAK

CLASS: LOCO

RAILROAD: LOCO

DIRECTION: EAST

OPERATING PHASE: EN ROUTE

TRACK/NO: MAIN 003

ACCIDENT DESCRIPTION

TRAIN 2 STRUCK FRONT OF STANDING TRAIN 1, RESULTING IN DERAILED AND RESULTING IN RUPTURE OF LOCO FUEL TANK & OIL SPILLAGE.

TRAIN 1 WAS STOPPED. ENGINEER WAS AWARE OF IMMINENT ACCIDENT. SPEED OF TRAIN 2 WAS 022 MPH. ENGINEER WAS AWARE OF IMMINENT ACCIDENT. BRAKES WERE APPLIED. VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

PROBABLE CAUSES

1. PROCEDURAL FAILURE - FOR PROBABLE CAUSE SEE NTSB PUBLICATION BRR-82-1

CASUALTIES

FATALITIES INJURIES

EMPLOYEES ON DUTY

0 1

PASSENGERS

0 2

PROPERTY LOSSES

RAILROAD $824,000

NON-RAILROAD $0

PROBABLE CAUSES OF CASUALTIES

THROWN FROM SEAT/POSITION IN COLLISION
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT 89NC83316045

REPORTED BY:
AMTRAK

LOCATION: KEARNY, NEW JERSEY

TIME: 2356 EDT
DATE: 09/30/83
WEATHER: RAIN
VISIBILITY: DARK/5000 FT

TRAIN:
CLASS: PASSENGER
RAILROAD: ANTRAK
DIRECTION: EAST
OPERATING PHASE: EN ROUTE
TRACK/NO: MAIN 002

*************** ACCIDENT DESCRIPTION ***********************

TRAIN 1 STRUCK EMPLOYEE, RESULTING IN FATALITIES.
SPEED OF TRAIN 1 WAS 050 MPH. ENGINEER WAS NOT AWARE OF IMPELLING ACCIDENTS HORN
WAS SOUNDED.

*************** PROBABLE CAUSES ***********************

1. FAILURE OF PERSON TO DETECTapproaching train due to use of
   INTOXICANTS

*************** OTHER FACTORS ***********************

1. FAILURE TO PROPERLY PERFORM PROCEDURES PRESCRIBED BY RR
   MAINTENANCE OF WAY DEP'T. EMPLOYEE SAFETY RULE #4120

*************** CASUALTIES ***********************

FATALITIES INJURIES

EMPLOYEES ON DUTY

2 0

*************** PROBABLE CAUSES OF CASUALTIES ***********************

1. STRUCK BY TRAIN
REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

--- LOCATION ---
ALVAR, OKLAHOMA

--- TIME --- --- DATE --- WEATHER --- VISIBILITY ---
1605 CST 03/23/81 CLOUDY DAY/1/500 FT

--- RAILROAD --- --- CLASS --- DIRECTION --- OPERATING PHASE --- --- TRACK/NO ---
1 ATCHISON TOPEKA AND SANTA FE RY CO. FREIGHT WEST EN ROUTE SIDING 001

---------------------------------------- ACCIDENT DESCRIPTION ----------------------------------------
TRAIN 1 DERAILLED.
SPEED OF TRAIN 1 WAS 040 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

----------------------------------- PROBABLE CAUSES -----------------------------------
1. FAILURE OF TRACK ALIGNMENT DUE TO NORMAL DETERSIORATION/YEAR
2. DAMAGE TO TRACK ALIGNMENT FROM TRAIN OPERATIONS

--------------------------------- CASUALTIES ---------------------------------
NONE

----------------------------------- PROPERTY LOSSES -----------------------------------
<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 615,000</td>
<td>$ 0</td>
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</tbody>
</table>
REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

LOCATION
ELKMONT, KANSAS

TIME
00:45 GMT

DATE
07/09/93

WEATHER
CLEAR

VISIBILITY
DARK/100 FT

TRAIN
ATCHISON TOPEKA AND SANTA FE RY CO.

CLASS
CUT OF CARS

DIRECTION
WEST

OPERATING PHASE
MOVEMENT IN YARD

TRACK/NO
YARD 006

================================== ACCIDENT DESCRIPTION ===================================

CUT OF CARS STRUCK OBSTRUCTION, RESULTING IN DERAILMENTS. DERAILLED EQUIPMENT FELL ON EMPLOYEE, RESULTING IN FATALITY; TRAIN 1 DERAILED. SPEED OF TRAIN 1 WAS 004 MPH. ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

================================== PROBABLE CAUSES ===================================

1. PROCEDURAL FAILURE - TRACK CAPACITY BOOK OUT OF DATE AND INACCURATE
2. LACK OF INFORMATION FOR SUPERVISING PERFORMANCE OF PROCEDURE PRESCRIBED BY RR GENERAL NOTICE/BULLETIN KCIC
3. LACK OF INFORMATION ABOUT THE STATE OF THE SYSTEM
4. LACK OF ADEQUATE INSTRUCTIONS FOR PERFORMING NECESSARY TRAIN OPERATION PROCEDURE

================================== CASUALTIES ===================================

<table>
<thead>
<tr>
<th>FATALITIES</th>
<th>INJURIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPLOYEES ON DUTY</td>
<td>1</td>
</tr>
</tbody>
</table>

================================== PROPERTY LOSSES ===================================

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4,000</td>
<td>$0</td>
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</table>

================================== PROBABLE CAUSES OF CASUALTIES ===================================

1. THROUGH FROM SEAT POSITION IN COLLISION/DERAILMENT
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #FTW3-#034

REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

------------LOCATION-------------
CONANCHE, TEXAS

--------TIME------
0950 CDT

---------DATE-----
08/25/83

--------WEATHER-------
CLEAR

-------VISIBILITY------
DAY/10000 FT

TRAIN -----------------RAILROAD-----------

--------CLASS--------
FREIGHT

--------DIRECTION-----
EAST

------OPERATING PHASE-----
EN ROUTE

--------TRACK/NO------
MAIN 001

---------------------------------------------------------
ACCIDENT DESCRIPTION ----------------------------------------

TRAIN 1 STRUCK VEHCILE; TRAIN 1 DERAILED.
SPEED OF TRAIN 1 WAS 034 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENT; BRAKES WERE
APPLIED. VISIBILITY WAS AFFECTED BY Tracker ALIGNMENT.

---------------------------------------------------------

PROBABLE CAUSES -----------------------------------------

1. FAILURE TO SUPERVISE PERFORMANCE OF PROCEEDURE PRESCRIBED BY RR
MAINTENANCE OF WAY INSTRUCTIONS #332A
2. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE
AS HAZARDOUS DUE TO LACK OF INSTRUCTION/SUPERVISION
3. PROCEDURAL FAILURE - BULLDOZER CROSSED TRACK WITHOUT
PERMISSION

CASUALTIES -----------------------------------------

NONE

PROPERTY LOSSES ----------------------------------------

<table>
<thead>
<tr>
<th>RAILROAD</th>
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</tr>
</thead>
<tbody>
<tr>
<td>$158,000</td>
<td>$0</td>
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</table>
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #FTW63FRO35

REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

---------------------LOCATION---------------------
SNYDER, TEXAS

---------------------TIME-----DATE-----WEATHER-----VISIBILITY-----
1605 CDT 08/31/83 CLEAR DAY/6000 FT

TRAIN -------------------RAILROAD-------------------
1 ATCHISON TOPEKA AND SANTA FE RY CO.

---------------------CLASS-----DIRECTION-----OPERATING PHASE-----TRACK/NO-----
FREIGHT WEST EN ROUTE MAIN 001

******************************************** ACCIDENT DESCRIPTION ********************************************

EQUIPMENT COMPONENT FAILED; TRAIN 1 Derailed.
SPEED OF TRAIN 1 WAS 55 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

******************************************** PROBABLE CAUSES ********************************************

1. FAILURE OF AXLE JOURNAL - FAILURE OF JOURNAL DUE TO SURFACE Pitting

******************************************** CASUALTIES ********************************************

NONE

******************************************** PROPERTY LOSSES ********************************************

RAILROAD NON-RAILROAD

$ 879,000 $ 0
REPORTED BY:
Baltimore & Ohio RR Co.

------------------- LOCATION -----------------
Murdock, Illinois

------- TIME -------       -- DATE --       WEATHER       ------- VISIBILITY -------
1530 CDT            09/02/83     CLEAR       DAY/5000 FT

Train: 1
Railroad: Baltimore & Ohio RR Co.
Class: Freight
Direction: East
Operating Phase: En Route
Track/No: Main 001

-------------------------- A. FHT DESCRIPTION ------------------------
Train 1 Derailed, Resulting in Puncture of Tank Cars.
Speed of Train 1 was 025 MPH; Engineer was not aware of impending accident.

------------------------------ PROBABLE CAUSES ------------------------
1. Improperly Secured Joint Bar
2. Failure of Personnel to Recognize Component Malfunction as Hazardous

------------------------ CASUALTIES ------------------------
None

------------------------ PROPERTY LOSSES ------------------------
Railroad: $801,000
Non-Railroad: $50,000
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C. 20594  

BRIEF OF RAILROAD ACCIDENT #WYC658041

REPORTED BY:  
BOSTON & MAINE CORP.

-------------------LOCATION-------------------  TIME--  DATE--  WEATHER  ---------VISIBILITY----------
WESTFORD, MASSACHUSETTS  1850 EDT  08/03/83  CLEAR  DARK/1000 FT

TRAIN ---------------RAILROAD--------------  CLASS------  DIRECTION  OPERATING PHASE  ---TRACK/NO---
1  BOSTON & MAINE CORP.  FREIGHT  EAST  EN ROUTE  SIDING  002

 ************************************** ACCIDENT DESCRIPTION ******************************

TRAIN 1 DERAILED, RESULTING IN RELEASE OF TOXIC AGENTS.  
SPEED OF TRAIN 1 WAS 028 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

 ************************************** PROBABLE CAUSES  **************************************

1. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE AS HAZARDOUS
2. HUMAN FAILURE - TRAIN HAD SLACK RUN IN DUE TO IMPROPER HANDLING

 ************************************** CASUALTIES  **************************************

None

 ************************************** PROPERTY LOSSES  **************************************

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$127,000</td>
<td>$0</td>
</tr>
</tbody>
</table>
REPORTED BY: BURLINGTON NORTHERN INC.

LOCATION: DESCHUTES, OREGON

TIME: 0115 PDT DATE: 07/08/83 WEATHER: CLOUDY

WEATHER: DARK/6200 FT

TRAIN: FREIGHT CLASS: EAST DIRECTION: EN ROUTE

OPERATING PHASE: MAIN TRACK

************** ACCIDENT DESCRIPTION **************

TRAIN 1 DERAILLED, RESULTING IN DERAILED EQUIPMENT OBSTRUCTING TRACK.
SPEED OF TRAIN 1 WAS 055 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

************************ PROBABLE CAUSES ************************

1. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR #518
   BRAKE RULE #518
2. PROCEDURAL FAILURE - IMPROPER BRAKING CAUSED BUFF FORCES TO LIFT WHEEL

************************ CASUALTIES ************************

FATALITIES: 0 INJURIES: 1

EMPLOYEES ON DUTY

************************ PROPERTY LOSSES ************************

RAILROAD: $495,000 
NON-RAILROAD: $ 0

************************ PROBABLE CAUSES OF CASUALTIES ************************

1. STRIKING INJURIOUS ENVIRONMENT
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

REPORTED BY:
BURLINGTON NORTHERN INC.

---------------------LOCATION---------------------
RHELROSE, IOWA

-------------TIME-------------
1458 CDT

-------------DATE-------------
07/28/93

-------------WEATHER-------------
CLEAR

-------------VISIBILITY-------------
DAY/0600 FT

TRAIN -------------RAILROAD-------------
1 BURLINGTON NORTHERN INC.

-------------CLASS-------------
FREIGHT

-------------DIRECTION-------------
EAST

-------------OPERATING PHASE-------------
EN ROUTE

-------------TRACK/NO-------------
MAIN 002

================================ ACCIDENT DESCRIPTION =================================

TRAIN 1 DERAILED.
SPEED OF TRAIN 1 WAS 537 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

================================ PROBABLE CAUSES =================================

1. PROCEDURE PRESCRIBED BY RR AIR BRAKE RULE #57
2. PROCEDURAL FAILURE - FAILED TO CONTROL BUFF FORCES ON DESCENDING GRADE

================================ CASUALTIES =================================

NONE

================================ PROPERTY LOSSES =================================

RAILROAD $ 365,000
NON-RAILROAD $ 0
REPORTED BY:
BURLINGTON NORTHERN INC.

---------------------LOCATION---------------------
SHELBINA, MISSOURI

---------------------TIME---------------------
1805 CDT

---------------------DATE---------------------
08/13/83

---------------------WEATHER---------------------
CLEAR

---------------------VISIBILITY---------------------
DAY/9990 FT

______________________RAILROAD______________________
1 BURLINGTON NORTHERN INC.

---------------------CLASS---------------------
FREIGHT

---------------------DIRECTION---------------------
WEST

---------------------OPERATING PHASE---------------------
EN ROUTE

---------------------TRACK/NO---------------------
MAIN 001

************** ACCIDENT DESCRIPTION **************

EQUIPMENT COMPONENT FAILED; TRAIN 1 DERAILED, RESULTING IN SUBSTANTIAL RR PROPERTY
DAMAGE. SPEED OF TRAIN 1 WAS 054 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

************************ PROBABLE CAUSES ************************

1. OVERHEATED AXLE JOURNAL
2. FAILURE OF AXLE JOURNAL - AXLE JOURNAL OVERHEATED AND BURNT OFF

************************ CASUALTIES ************************

NONE

************************ PROPERTY LOSSES ************************

RAILROAD  $1,000,000
NON-RAILROAD  $0
REPORTED BY:
BURLINGTON NORTHERN INC.

LOCATION-----------------
BROOKS, NEBRASKA

---TIME---  DATE---  WEATHER  VISIBILITY---
20:55 HUT  08/22/83  CLOUDY  DARK/5000 FT

TRAIN -----------RAILROAD---------------
1  BURLINGTON NORTHERN INC.

CLASS------ DIRECTION --OPERATING PHASE--
FREIGHT UNIT TRAIN  EAST  EN ROUTE

---TRACK/NO---
MAIN  001

------------------------------------------
ACCIDENT DESCRIPTION
------------------------------------------

TRACK COMPONENT FAILED; TRAIN 1 DERAILED, RESULTING IN DERAILED EQUIPMENT OBSTRUCTING
TRACK.
SPEED OF TRAIN 1 WAS 028 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

------------------------------------------
PROBABLE CAUSES
------------------------------------------
1. FAILURE OF SWITCH POINTS DUE TO NORMAL DETERIORATION/WEAR
2. BROKEN SWITCH POINTS
3. FAILURE OF SWITCH POINTS - EXCESSIVE WEAR NOT DETECTED BY
   INSPECTIONS
4. LACK OF SUPERVISION OF MAINTENANCE OF WAY PROCEDURE

------------------------------------------
CASUALTIES
------------------------------------------
NONE

------------------------------------------
PROPERTY LOSSES
------------------------------------------

<table>
<thead>
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BRIEF OF RAILROAD ACCIDENT #83-013-001

REPORTED BY:
SOUTHWESTERN TORONTO INC.

<table>
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<tr>
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<th>TIME</th>
<th>DATE</th>
<th>WEATHER</th>
<th>VISIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTIS ORCHARDS, WASHINGTON</td>
<td>2235 PDT</td>
<td>05/23/83</td>
<td>CLOUDY</td>
<td>DARK/800 FT</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>TRAIN</th>
<th>RAILROAD</th>
<th>CLASS</th>
<th>DIRECTION</th>
<th>OPERATING PHASE</th>
<th>TRACK/NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SOUTHWESTERN TORONTO INC.</td>
<td>FREIGHT</td>
<td>WEST</td>
<td>EN ROUTE</td>
<td>RAIN 001</td>
</tr>
</tbody>
</table>

-------------------- ACCIDENT DESCRIPTION -----------------------

TRAIN 1 DERAILLED.
SPEED OF TRAIN 1 WAS 054 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

-------------------- PROBABLE CAUSES -----------------------

1. FAILURE OF CAR/LOCO CENTER PLATE DUE TO NORMAL DETERIORATION/WEAR
2. FAILURE OF CAR/LOCO CENTER PLATE - CAUSED EXCESSIVE TRUCK HUNTING AND WHEEL CLIMB

------------------------- CASUALTIES -------------------------

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOME</td>
<td>S 520,000</td>
</tr>
</tbody>
</table>
REPORTED BY: BURLINGTON NORTHERN INC.

**LOCATION**: SUPERIOR, WISCONSIN

**TIME**: 0925 CDT

**DATE**: 09/12/63

**WEATHER**: CLEAR

**VISIBILITY**: DAY/2000 FT

**TRAIN**: 1 BURLINGTON NORTHERN INC.

**RAILROAD**: FREIGHT UNIT TRAIN

**CLASS**: EAST

**DIRECTION**: EN ROUTE

**OPERATING PHASE**: BRANCH 001

******************** ACCIDENT DESCRIPTION ********************

TRAIN 1 DERAILED; DERAILED EQUIPMENT STRUCK BRIDGE.
SPEED OF TRAIN 1 WAS 027 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

**************************************************************

******************** PROBABLE CAUSES ********************

1. **MOTORIST FAILURE** - TRUCK RUN-IN ON 7-DEGREE CURVE CAUSED WHEEL LIFT

************************************************************

----------- OTHER FACTORS -----------

1. **FAILURE OF TRUCK SIDE BEARING DUE TO NORMAL DETERIORATION/WEAR**

**************************************************************

************** CASUALTIES **************

**FATALITIES**

**INJURIES**

PUBLIC NOT ON RR PROPERTY | 0 | 1

************** PROPERTY LOSSES **************

<table>
<thead>
<tr>
<th>RAILROAD</th>
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<tbody>
<tr>
<td>$367,000</td>
<td>$85,000</td>
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************************************************************

******************** PROBABLE CAUSES OF CASUALTIES ********************

AUTOMOBILE FELL FROM BRIDGE; OCCUPANT RESTRAINTS PREVENTED SERIOUS INJURIES
REPORTED BY:
BURLINGTON NORTHERN INC.

LOCATION:
CAIRO, NEBRASKA

TIME:
0425 CDT

DATE:
09/19/83

WEATHER:
CLOUDY

VISIBILITY:
DARK/5000 FT

TRAIN:
BURLINGTON NORTHERN INC.

RAILROAD:

CLASS:
FREIGHT UNIT TRAIN

DIRECTION:
EAST

OPERATING PHASE:
EN ROUTE

TRACK/NO:
RAIL 001

------------------------------- ACCIDENT DESCRIPTION -------------------------------

TRACK COMPONENT FAILED, TRAIN 1 DERAILED, RESULTING IN DERAILED LOCO.
SPEED OF TRAIN 1 WAS 042 MPH, ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT;
HORN WAS SOUNDED.

------------------------------- PROBABLE CAUSES -------------------------------------

1. BROKEN RAIL
2. FAILURE OF RAIL - DUE TO UNDETECTED DETAIL FRACTURE

------------------------------- CASUALTIES ------------------------------------------

NONE

------------------------------- PROPERTY LOSSES -------------------------------------

RAILROAD:
$ 226,000

NON-RAILROAD:
$ 0
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT NATLTSF015

REPORTED BY:
CHATTANOOGA INDUSTRIAL RR

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>TIME</th>
<th>DATE</th>
<th>WEATHER</th>
<th>VISIBILITY</th>
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</thead>
<tbody>
<tr>
<td>CEDAR SPRINGS, GEORGIA</td>
<td>0500 EST</td>
<td>07/02/83</td>
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<td>DARK/0000 FT</td>
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TRAIN
CHATTANOOGA INDUSTRIAL RR

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<tr>
<th>RAILROAD</th>
<th>CLASS</th>
<th>DIRECTION</th>
<th>OPERATING M/W</th>
<th>TRACK/HO</th>
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<tbody>
<tr>
<td>YARD/SWITCHING</td>
<td>NORTH</td>
<td>MOVEMENT IN YARD</td>
<td>MAIN 001</td>
<td></td>
</tr>
</tbody>
</table>

------------------------------- ACCIDENT DESCRIPTION -----------------------------

TRAIN 1 STRUCK EMPLOYEE, RESULTING IN FATALITY.
SPEED OF TRAIN 1 IS UNKNOWN; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

------------------------------- PROBABLE CAUSES -----------------------------

1. FAILURE OF PERSON TO RECOGNIZE POSITION ON TRACK STRUCTURE/RIGHT-OF-WAY AS HAZARDOUS DUE TO ERROR IN JUDGEMENT
2. HUMAN FAILURE - EMPLOYEE STRUCK BY TRAIN WHILE SWITCHING CASES

------------------------------- CASUALTIES -----------------------------

<table>
<thead>
<tr>
<th>FATALITIES</th>
<th>INJURIES</th>
<th>PROPERTY LOSSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>NONE</td>
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</table>

------------------------------- EMPLOYEES ON DUTY -----------------------------

<table>
<thead>
<tr>
<th>EMPLOYEES ON DUTY</th>
<th>1</th>
</tr>
</thead>
</table>

------------------------------- PROBABLE CAUSES OF CASUALTIES -----------------------------

STRIKED BY TRAIN
BRIEF OF RAILROAD ACCIDENT #F71235031

REPORTED BY:
CHICAGO AND NORTH WESTERN TRANSP CO.

----------------- LOCATION -----------------

COURTLAND, ILLINOIS

----------------- TIME --------------- DATE ------------ WEATHER ------------ VIABILITY -----------
1645 CDT  08/10/83  CLOUDY  DAY/5000 FT

TRAIN ------------ RAILROAD -------------
1  CHICAGO AND NORTH WESTERN TRANSP CO.

------------------ CLASS ----------------- DIRECTION ------------- OPERATING PHASE -----
FREIGHT UNIT TRAIN  EAST  EN ROUTE

--------------------- TRACK/NO -----------------
MAIN  001

**************************************************** Accident Description ****************************************************

EQUIPMENT COMPONENT FAILED; TRAIN 1 DERAILED, RESULTING IN SUBSTANTIAL RR PROPERTY DAMAGE.
SPEED OF TRAIN 1 WAS C/O RPNS ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

***************************************************************************************

************************************************************ Probable Causes ************************************************************

1. OVER HEATED ROLLER BEARING
2. FAILURE OF ROLLER BEARING - NOT BOX DETECTOR DID NOT DETECT AXLE TURNING OFF

***************************************************************************************

************************************************************ Casualties ************************************************************

NONE

***************************************************************************************

************************************************************ Property Losses ************************************************************

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 1130.000</td>
<td>$ 10.000</td>
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</table>

***************************************************************************************
BRIEF OF RAILROAD ACCIDENT NTSB83F0033

REPORTED BY: CHICAGO AND NORTH WESTERN TRANSP CO.

LOCATION: DUNLAP, IOWA

TIME: 0900 CDT  DATE: 08/11/83  WEATHER: CLEAN  VISIBILITY: DAY/5000 FT

TRAIN: CHICAGO AND NORTH WESTERN TRANSP CO.

CLASS: FREIGHT  DIRECTION: EAST  OPERATING PHASE: EN ROUTE  TRACKING: MAIN

ACCIDENT DESCRIPTION

EQUIPMENT COMPONENT FAILED; TRAIN 1 DERAILED.
SPEED OF TRAIN 1 WAS 065 RPM; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

PROBABLE CAUSES

1. OVER HEATED ROLLER BEARING
2. FAILURE OF ROLLER BEARING - NOT DETECTED BUT NOT IN TIME TO STOP TRAIN

CASUALTIES

NONE

PROPERTY LOSSES

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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</thead>
<tbody>
<tr>
<td>$402,000</td>
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</table>
REPORTED BY:  
CONSOLIDATED RAIL CORP.

LOCATION:  
FAIR LAWN, NEW JERSEY

TIME:  2131 EDT

DATE:  07/07/82

WEATHER:  CLOUDY

VISIBILITY:  DARK BUT LIGHTED/1000 FT

TRAIN:  1

RAILROAD:  CONSOLIDATED RAIL CORP.

CLASS:  PASSENGER COMMUTER

DIRECTION:  EAST

OPERATING PHASE:  EN ROUTE

TRACK/NO:  001

++++++++++++++++++++++++++ ACCIDENT DESCRIPTION +++++++++++++++++++++++++++

PERSONS TAMPERED WITH TRACK COMPONENT, RESULTING IN DERAILMENT; DERAILED EQUIPMENT STRUCK BUILDING NOT ON RR PROPERTY; RESULTING IN SUBSTANTIAL NON-RR DAMAGE; RESULTING IN FATALITY; RESULTING IN INJURIES.

SPEED OF TRAIN IS UNKNOWN; ENGINEER WAS AWARE OF IMPENDING ACCIDENT. VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

++++++++++++++++++++++++++ PROBABLE CAUSES +++++++++++++++++++++++++++

1. VANDALISM, MALICIOUS MISCHIEF
2. DAMAGE BY NON-RAILROAD ACTIVITIES - JUVENILES THREW SWITCH IN FRONT OF MOVING TRAIN

++++++++++++++++++++++++++ CASUALTIES +++++++++++++++++++++++++++

FATALITIES  INJURIES

EMPLOYEES ON DUTY  1  0

PASSENGERS  0  1

++++++++++++++++++++++++++ PROPERTY LOSSES +++++++++++++++++++++++++++

RAILROAD  NON-RAILROAD

$ 4,005,000  $ 1,500,000

++++++++++++++++++++++++++ PROBABLE CAUSES OF CASUALTIES +++++++++++++++++++++++++++

1. COLLAPSE OF STRUCTURE (TRAIN)
REPORTED BY:  
CONSOLIDATED RAIL CORP.

--- LOCATION ---  --- TIME ---  --- DATE ---  --- WEATHER ---  --- VISIBILITY ---
GALITZIN, PENNSYLVANIA  1535 EDT  09/17/83  CLEAR  DAY/2000 FT

TRAIN  RAILROAD  --- CLASS ---  DIRECTION  --- OPERATING PHASE ---  --- TRACK/NO ---
1  CONSOLIDATED RAIL CORP.  FREIGHT  EAST  EN ROUTE  RAIL  003

++++++++++++++++++++++++++++++++++++++++ ACCIDENT DESCRIPTION ++++++++++++++++++++++++++++++

TRAIN 1 DERAILLED.
SPEED OF TRAIN 1 WAS 64 MPH. ENGINEER WAS AWARE OF IMPENDING ACCIDENTS. BRAKES WERE
APPLIED.

++++++++++++++++++++++++++++++++++++++++ PROBABLE CAUSES +++++++++++++++++++++++++++++++++++++++

1. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE AS HAZARDOUS
2. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR AIR BRAKE RULE #16
3. PROCEDURAL FAILURE - USED BRAKE FEED VALVE IMPROPERLY TO APPLY BRAKES

++++++++++++++++++++++++++++++++++++++++ CASUALTIES +++++++++++++++++++++++++++++++++++++++++

NONE

------------------------------- PROPERTY LOSSES -------------------------------

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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<tbody>
<tr>
<td>$330,000</td>
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REPORTED BY:  
DENVER AND RIO GRANDE WESTERN RR CO.

------------------ LOCATION ------------------ 
SOUTH SULPHUR SPRINGS, COLORADO

------------------ TIME ------------------ 
0200 MDT

------------------ DATE ------------------ 
08/07/82

------------------ WEATHER ------------------ 
CLEAR

------------------ VISIBILITY ------------------ 
DARK/7200 FT

TRAIN  ------------------ RAILROAD ------------------ 
1  DENVER AND RIO GRANDE WESTERN RR CO.

------------------ CLASS ------------------ 
Freight

------------------ DIRECTION ------------------ 
East

------------------ OPERATING PHASE ------------------ 
En Route

------------------ TRACK/NO. ------------------ 
Main  001

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

**ACCIDENT DESCRIPTION**

TRAIN 1 DERAILED, RESULTING IN DERAILED EQUIPMENT OBSTRUCTING TRACK.
SPEED OF TRAIN 1 WAS 55 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

**PROBABLE CAUSES**

1. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE AS HAZARDOUS DUE TO INATTENTIVENESS TO DUTIES
2. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE #101
3. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE #273
4. MANUFACTURE FAILURE - TRAIN WAS RUN 52 MPH IN 20 MPH SPEED RESTRICTION

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

**CASUALTIES**

None

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

**PROPERTY LOSSES**

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000,000</td>
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</table>
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20590

BRIEF OF RAILROAD ACCIDENT #NYC83FR035

REPORTED BY:
GREATER CLEVELAND REGIONAL TRANSIT AUTH.

------------------- LOCATION -------------------
CLEVELAND, OHIO

-- TIME -- -- DATE -- WEATHER -- VISIBILITY --
0740 EBY 06/20/83 CLEAR DAY/1000 FT

TRAIN ------------------ RAILROAD ------------------

------------------ CLASS ------------------ DIRECTION -- OPERATING PHASE -- TRACK/NO --
GREATER CLEVELAND REGIONAL TRANSIT AUTH. PASSENGER TRANSIT EAST EN ROUTE RAIN 002

---------------------------- ACCIDENT DESCRIPTION -----------------------------

TRAIN 1 DERAILED; DERAILED EQUIPMENT STRUCK STRUCTURE.
SPEED OF TRAIN 1 WAS 015 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

------------------------------ PROBABLE CAUSES -------------------------------

1. FAILURE OF STOCK RAIL DUE TO NORMAL DETERIORATION/WEAR
2. BENT STOCK RAIL

------------------------------ CASUALTIES -------------------------------

NONE

------------------------------ PROPERTY LOSSES -------------------------------

RAILROAD NON-RAILROAD
$ 101,000 $ 0
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #ATL93F015

REPORTED BY:
ILLINOIS CENTRAL GULF RR

--------------LOCATION--------------
EDGEMOOD, ILLINOIS

--------TIME--------
06:00 EDT

--------DATE--------
09/13/93

--------WEATHER--------
CLOUDY

--------VISIBILITY--------
DEBRIS/0500 FT

TRAIN

--------------RAILROAD--------------
ILLINOIS CENTRAL GULF RR

--------CLASS--------
FREIGHT UNIT TRAIN

--------DIRECTION--------
NORTH

--------OPERATING PHASE--------
EN ROUTE

--------TRACK/NO--------
MAIN 001

=================================
ACCIDENT DESCRIPTION
=================================
EQUIPMENT COMPONENT FAILED, RESULTING IN DERAILMENT; DERAILED EQUIPMENT STRUCK TRACK
COMPONENTS; TRAIN 1 DERAILED.
SPEED OF TRAIN 1 WAS 035 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

=================================
PROBABLE CAUSES
=================================
1. OVER HEATED ROLLER BEARING
2. FAILURE OF ROLLER BEARING - CAUSED BURIED OFF JOURNAL

=================================
CASUALTIES
=================================
NONE

=================================
PROPERTY LOSSES
=================================

<table>
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<tr>
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<tbody>
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<td>$ 3,000</td>
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</table>
REPORTED BY: KANSAS CITY SOUTHERN Ry CO.

LOCATION: BATON ROUGE, LOUISIANA

---TIME--  ---DATE--  WEATHER  ---VISIBILITY---
1457 CDT  07/13/83  CLOUDY  DAY/4000 FT

TRAIN  RAILROAD  CLASS  DIRECTION  OPERATING PHASE  TRACK/HO
1  KANSAS CITY SOUTHERN Ry CO.  YARD/SWITCHING  WEST  MAKEUP/BREAKUP  YARD  004

================================================================================

EMPLOYEE FELL FROM TRAIN 1, RESULTING IN FATALITY.
SPEED OF TRAIN 1 WAS 008 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

================================================================================

--- PROBABLE CAUSES ---

1. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR
   OPERATING RULE 91.
2. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE
   AS HAZARDOUS DUE TO ERROR IN JUDGEMENT
3. PROCEDURAL FAILURE - EMPLOYEE USED IMPROPER COUPLING METHOD

--- CASUALTIES ---

FATALITIES  INJURIES

EMPLOYEES ON DUTY
1  0

--- PROBABLE CAUSES OF CASUALTIES ---

1. STRUCK BY TRAIN
REPORTED BY: MASSACHUSETTS BAY TRANSPORTATION AUTH.

LOCATION:

REDFORD, MASSACHUSETTS

--- TIME --- --- DATE --- WEATHER --- VISIBILITY ---

0930 EDT 08/29/83 RAIN DAY/1000 FT

TRAIN: MASSACHUSETTS BAY TRANSPORTATION AUTH.

--- CLASS --- DIRECTION --- OPERATING PHASE --- TRACK/NO ---

1 YARD/SWITCHING SOUTH MOVEMENT IN YARD YARD 011
2 YARD/SWITCHING SOUTH MOVEMENT IN YARD YARD 011

----------------------------------------- ACCIDENT DESCRIPTION -----------------------------------------

TRAIN 1 STRUCK SIDE OF STANDING TRAIN 2; TRAIN 1 DERAILED, RESULTING IN DERAILED EQUIPMENT OBSTRUCTING TRACK.
SPEED OF TRAIN 1 IS UNKNOWN; ENGINEER WAS AWARE OF IMPENDING ACCIDENT. SPEED OF TRAIN
2 WAS 006 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; BRAKES WERE APPLIED.

---------------------------------------- PROBABLE CAUSES ----------------------------------------

1. FAILURE TO PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE 
   #57
2. LACK OF EXPERIENCE IN PROCEDURE PRESCRIBED BY RR OPERATING 
   RULE #57
3. PROCEDURAL FAILURE - TEST TRAIN OPERATED AND SUPERVISED 
   IMPROPERLY

--------------------------------------- OTHER FACTORS ---------------------------------------

1. LACK OF TRAINING IN PERFORMING NECESSARY TRAIN OPERATOR 
   PROCEDURE
2. LACK OF ADEQUATE INSTRUCTIONS FOR PERFORMING NECESSARY 
   TRAIN OPERATION PROCEDURE
3. INADEQUATE SUPERVISION OF TRAIN OPERATION PROCEDURE DUE TO 
   LACK OF SKILL/TRAINING

---------------------------------------- CASUALTIES ----------------------------------------

NONE

------------------------------------------ PROPERTY LOSSES ------------------------------------------

RAILROAD: $98,000
NON-RAILROAD: $0
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #FTW83FRQ29

REPORTED BY:  
MISSOURI PACIFIC RR CO.

----------------- LOCATION -----------------  --- TIME ---  --- DATE ---  --- WEATHER ---  --- VISIBILITY ---
EDMOND, KANSAS  1938 CST  07/20/83  CLEAR  DAY/5000 FT

TRAIN  ----------------- RAILROAD -----------------  --------------- CLASS --------------- DIRECTION --------------- OPERATING PHASE ---------------  --- TRACK NO ---  --- BRANCH ---  --- NO ---
1 MISSOURI PACIFIC RR CO.  LOCAL FREIGHT  EAST  EN ROUTE  BRANCH  001

++++++++++++++++++++++++++++ ACCIDENT DESCRIPTION +++++++++++++++++++++++++++++
TRUCK WITH HAZARDOUS MATERIAL STRUCK SIDE OF TRAIN 1; TRAIN 1 DERAILED; RESULTING 
IN RELEASE OF TOXIC AGENTS.  
SPEED OF TRAIN 1 WAS 025 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENT; BRAKES WERE 
APPLIED; Horn WAS SOUNDED.

++++++++++++++++++++++++++++ PROBABLE CAUSES +++++++++++++++++++++++++++++

1. FAILURE OF MOTORIST TO STOP AT PROTECTED GRADE CROSSING DUE TO 
INATTENTIVENESS TO DUTIES

++++++++++++++++++++++++++++ CASUALTIES +++++++++++++++++++++++++++++

FATALITIES  INJURIES
PUBLIC ON RR PROPERTY  2  0

++++++++++++++++++++++++++++ PROPERTY LOSSES +++++++++++++++++++++++++++++

RAILROAD  NON-RAILROAD
$ 131,000  $ 105,000

++++++++++++++++++++++++++++ PROBABLE CAUSES OF CASUALTIES +++++++++++++++++++++++++++++

1. ASPHYXIATION
BRIEF OF RAILROAD ACCIDENT #NCR8310025

REPORTED BY: NEW YORK CITY TRANSIT AUTHORITY

LOCATION: BROOKLYN, NEW YORK

--LINE-- 2330 EST 05/03/83 M/A TUNNEL/1000 FT

--DATE-- WEATHER ---VISIBILITY---

TRAIN ---RAILROAD--- ---CLASS--- DIRECTION ---OPERATING PHASE--- ---TRACK/HG---

1 NEW YORK CITY TRANSIT AUTHORITY PASSENGER TRANSIT NORTH EN ROUTE MAIN 003

ACCIDENT DESCRIPTION

TRAIN 1 STRUCK PERSON, RESULTING IN FATALITY.
SPEED OF TRAIN 1 IS UNKNOWN. ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

PROBABLE CAUSES

1. FAILURE OF PERSON TO DETECT APPROACHING TRAIN DUE TO LACK OF INSTRUCTIONS/SUPERVISION
2. HUMAN FAILURE - CONTRACT EMPLOYEE LEANED INTO PATH OF TRAIN

CASUALTIES

FATALITIES INJURIES

PERSONS ON OFFICIAL BUSINESS 1 0

PROPERTY LOSSES

NONE

PROBABLE CAUSES OF CASUALTIES

1. STRUCK BY TRAIN
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #NYC3FR037

REPORTED BY:
NEW YORK CITY TRANSIT AUTHORITY

LOCATION: New York, New York
TIME: 1745 EDT
DATE: 06/21/83
WEATHER: N/A
VISIBILITY: TUNNEL SUB 1000 FT

TRAIN: NEW YORK CITY TRANSIT AUTHORITY
CLASS: PASSENGER TRANSIT
DIRECTION: SOUTH
OPERATING PHASE: EN ROUTE
TRACK/NO: MAIN 003

------------------------------ ACCIDENT DESCRIPTION -----------------------------
TRAIN 1 DERAILED, RESULTING IN DERAILED CARS.
SPEED OF TRAIN 1 WAS 225 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

------------------------------ PROBABLE CAUSES -------------------------------
1. FAILURE OF SPIKES AND RAIL FASTENERS DUE TO NORMAL DETERIORATION/WEAR
2. LOOSELY SECURED RAIL

------------------------------ CASUALTIES ------------------------------
NONE

------------------------------ PROPERTY LOSSES -------------------------------
RAILROAD: $20,000
NON-RAILROAD: $0
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT 83-M50120

REPORTED BY:
NEW YORK CITY TRANSIT AUTHORITY

LOCATION:
NEW YORK, NEW YORK

--- TIME ---  --- DATE ---  --- WEATHER ---  --- VISIBILITY ---
0924 H 06/23/83  N/A  TUNNEL/0010 FT

--- TRAIN ---  --- RAILROAD ---  --- CLASS ---  --- DIRECTION ---  --- OPERATING PHASE ---  --- TRACK/NO ---
NEW YORK CITY TRANSIT AUTHORITY  PASSENGER TRANSIT  SOUTH  LOADING/UNLOADING  RAIN  004

+----------------------------------+
| ACCIDENT DESCRIPTION              |
+----------------------------------+
| PASSENGER FELL FROM STATION PLATFORM; TRAIN 1 STRUCK PASSENGER, RESULTING IN FATALITY. |
| SPEED OF TRAIN 1 WAS 605 RPM; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. |
+----------------------------------+

+----------------------------------+
| PROBABLE CAUSES                   |
+----------------------------------+
| 1. FAILURE OF PERSON TO RECOGNIZE POSITION OR STRUCTURE AS |
| HAZARDOUS DUE TO PHYSICAL DISABILITY |
| 2. HUMAN FAILURE - PERSON WITH IMPAIRED VISION STEPPED BETWEEN |
| CARS |
+----------------------------------+

+----------------------------------+
| CASUALTIES                     |
+----------------------------------+

<table>
<thead>
<tr>
<th>FATALITIES</th>
<th>INJURIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASSENGERS</td>
<td>1</td>
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<tr>
<td></td>
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</table>

+----------------------------------+
| PROPERTY LOSSES                  |
+----------------------------------+
| HOME |

+----------------------------------+
| PROBABLE CAUSES OF CASUALTIES    |
+----------------------------------+
| 1. STRUCK BY TRAIN               |

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #FTWB3FR024  

REPORTED BY:  
NORFOLK AND WESTERN RY CO.

LOCATION:  
CLIFTON HILL, MISSOURI

---TIME---  ---DATE---  WEATHER  ------VISIBILITY------
0425 CDT  06/07/53  CLEAR  DARK/2000 FT

TRAIN  RAILROAD  ---CLASS---  DIRECTION  ---OPERATING PHASE---  ---TRACK/HO---
1 NORFOLK AND WESTERN RY CO.  FREIGHT  WEST  EN ROUTE  MAIN  00

ACCIDENT DESCRIPTION

TRAIN 1 DERAILLED.
SPEED OF TRAIN 1 WAS 655 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. VISIBILITY WAS AFFECTED BY TRACK ALIGMENT.

PROBABLE CAUSES

1. FAILURE OF TRACK ALIGNMENT DUE TO NORMAL DETERIORATION/MORE
2. LOOSELY SECURED RAIL ANCHORAGES
3. LOOSELY SECURED TIEPLATES

CASUALTIES

NONE

PROPERTY LOSSES

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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</thead>
<tbody>
<tr>
<td>$1,156,000</td>
<td>$0</td>
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</table>
REPORTED BY: PITTSBURGH & LAKE ERIE RR

LOCATION: DROPOCK, PENNSYLVANIA

TIME: 0754 EST DATE: 06/20/83 WEATHER: CLOUDY VISIBILITY: DAY/1000 FT

TRAIN 1 RAILROAD: PORT AUTHORITY OF ALLEGHENY COUNTY CLASS: PASSENGER COMMUTER DIRECTION: SOUTH OPERATING PHASE: EN ROUTE TRACK/NO: MAIN 005

--------------------------------------------- ACCIDENT DESCRIPTION ---------------------------------------------

TRAIN 1 STRUCK PASSENGERS, RESULTING IN FATALITIES. SPEED OF TRAIN 1 WAS 025 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENTS; BRAKES WERE APPLIED.

--------------------------------------------- PROBABLE CAUSES ---------------------------------------------

1. FAILURE OF PERSON TO RECOGNIZE POSITION OR TRACK STRUCTURE/SIDE-OF-WAY AS HAZARDOUS DUE TO DISTRACTION BY OTHER EVENTS
2. FAILURE OF PERSON TO DETECT APPROACHING TRAIN DUE TO DISTRACTION BY OTHER EVENTS
3. HUMAN FAILURE - PASSENGERS BOARDING STRUCK BY OPPOSING TRAIN

--------------------------------------------- CASUALTIES ---------------------------------------------

        FATALITIES INJURIES

        PASSENGERS 2 0

--------------------------------------------- PROPERTY LOSSES ---------------------------------------------

        GONE

--------------------------------------------- PROBABLE CAUSES OF CASUALTIES ---------------------------------------------

1. STRUCK BY TRAIN

---------------------------------------------
REPORTED BY:  
ST. LOUIS SOUTHWESTERN RY CO.

LOCATION:  
TYLER, TEXAS

TIME: 0700 CST
DATE: 07/06/83
WEATHER: CLOUDY
VISIBILITY: 2000 FT

TRAIN:  
ST. LOUIS SOUTHWESTERN RY CO.

RAILROAD: FREIGHT
CLASS: EN ROUTE
DIRECTION: SOUTH
OPERATING PHASE: RAIL
TRACK/NO.: 001

************ ACCIDENT DESCRIPTION ************

TRAIN 1 DRAGGED EQUIPMENT COMPONENT; STRUCK SWITCH; TRAIN 1 DERAILED.
SPEED OF TRAIN 1 WAS 018 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

************ PROBABLE CAUSES ************

1. LOOSELY SECURED SANDING PIPING
2. DAMAGE TO SPRING/POWER SWITCH FROM DRAGGING EQUIPMENT

************ CASUALTIES ************

FATALITIES: 0
INJURIES: 1

************ PROPERTY LOSSES ************

RAILROAD: $1,329,000
NON-RAILROAD: $70,000

************ PROBABLE CAUSES OF CASUALTIES ************

1. THROWN FROM SEAT/POSITION IN COLLISION/DERAILEMENT
REPORTED BY: ST. LOUIS SOUTHWESTERN RY CO.

LOCATION: KANSAS CITY, KANSAS

TIME: 0215 CDT

DATE: 07/11/83

WEATHER: CLEAR

VISIBILITY: DARK/0800 FT

TRAIN: 1 ST. LOUIS SOUTHWESTERN RY CO.

DISPL: FREIGHT

DIRECTION: WEST

OPERATING PHASE: EN ROUTE

TRACK/NO: MAIN 005

ACCIDENT DESCRIPTION:

TRAIN 1 Derailed.
Speed of Train 1 was 007 MPH. Engineer was not aware of impending accident. Visibility was affected by track alignment.

PROBABLE CAUSES:

1. Failure of spikes and rail fasteners due to forces over design limits.
2. Procedural failure - Excessive draft forces due to train handling.
3. Failure to properly perform procedure prescribed by RR Operating Rule #28.

CASUALTIES:

None.

PROPERTY LOSSES:

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$115,000</td>
<td>$0</td>
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</table>
REPORTED BY:  
SEABOARD COAST LINE RR

LOCATION  
LA GRANGE, GEORGIA

---TIME---  ---DATE---  WEATHER  ---VISIBILITY---
1820 EST  06/29/82  CLOUDY  DAY/4000 F:

TRAIN  
1 SEABOARD COAST LINE RR  

--------RAILROAD---------  ---CLASS------  DIRECTION  ---OPERATING PHASE---  ---TRACK/NO---
1 SEABOARD COAST LINE RR  FREIGHT  EAST  EN ROUTE  MAIN  000

**************************************************** ACCIDENT DESCRIPTION ****************************************
TRAIN 1 DERAILLED, RESULTING IN DERAILLED CARS.
SPEED OF TRAIN 1 WAS 050 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

 ************************************************** PROBABLE CAUSES ****************************************
1. PROCEDURAL FAILURE — BUMP FORCES IN CURVE FROM IMPROPER 
   BRACING
2. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE AS HAZARDOUS
3. FAILURE TO PERFORM PROCEDURE PRESCRIBED BY RR AIR BRAKE RULE #1022

**************************************************** CASUALTIES ****************************************
NONE

**************************************************** PROPERTY LOSSES **************************************

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 1,847.000</td>
<td>$ 0</td>
</tr>
</tbody>
</table>
REPORTED BY: SOUTHERN PACIFIC TRANSP. CO.

LOCATION: VICTORIA, TEXAS

TIME: 1015 CST

DATE: 06/20/83

WEATHER: CLOUDY

VISIBILITY: DAY/970 FT

TRAIN: SOUTHERN PACIFIC TRANSP. CO.

RAILROAD: LOCAL FREIGHT

CLASS: WEST

DIRECTION: SETOUT/PICKUP NOT IN YARD

OPERATING PHASE: INDUSTRIAL 001

TRACK/NO: 001

======================================== ACCIDENT DESCRIPTION ==========================================

TRUCK STRUCK TRAIN 1, RESULTING IN FATALITY.
TRAIN 1 WAS STOPPED; ENGINEER WAS AWARE OF IMPENDING ACCIDENT.

======================================== PROBABLE CAUSES ===========================================

1. FAILURE OF MOTORIST TO STOP AT PROTECTED GRADE CROSSING
2. HUMAN FAILURE - TRUCK DRIVER IGNORED FLAGMAN AT GRADE CROSSING

======================================== CASUALTIES ==============================================

FATALITIES: 1

INJURIES: 0

EMPLOYEES ON DUTY: 1

======================================== PROBABLE CAUSES OF CASUALTIES ===========================

1. THROWN FROM SEAT/POSITION IN COLLISION/DERAILMENT

======================================== PROPERTY LOSSES ==========================================

RAILROAD: $1,000

NON-RAILROAD: $2,000

========================================
**REPORTED BY:**
SOUTHERN PACIFIC TRANSP. CO.

**LOCATION:**
WATS, CALIFORNIA

**TIME:**
1835 PDT

**DATE:**
07/21/83

**WEATHER:**
CLEAR

**VISIBILITY:**
DAY/0470 FT

**TRAIN**
---
<table>
<thead>
<tr>
<th>1</th>
<th>SOUTHERN PACIFIC TRANSP. CO.</th>
<th>LOCAL FREIGHT</th>
<th>EAST</th>
<th>EN ROUTE</th>
<th>002</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>SOUTHERN PACIFIC TRANSP. CO.</td>
<td>LOCAL FREIGHT</td>
<td>WEST</td>
<td>EN ROUTE</td>
<td>002</td>
</tr>
</tbody>
</table>

**ACCIDENT DESCRIPTION**

TRAIN 1 STRUCK FRONT OF TRAIN 2, RESULTING IN DERAILEMENT.
SPEED OF TRAIN 1 WAS 010 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. SPEED OF TRAIN 2 WAS 001 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENT; BRAKES WERE APPLIED.
VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

**PROBABLE CAUSES**
1. HUMAN FAILURE - CONDUCTOR ID BRKENNA FAILED TO APPLY EMERG BRAKES
2. LACK OF OR INADEQUATE COMMUNICATIONS
3. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE #93

**CASUALTIES**
NONE

**PROPERTY LOSSES**

<table>
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<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$730,000</td>
<td>$0</td>
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</table>
REPORTED BY: SOUTHERN PACIFIC TRANSP. CO.

LOCATION----------- MOON PARK, CALIFORNIA

-----TIME----- DATE----- WEATHER -----VISIBILITY-----
1510 PDT 09/06/83 CLOUDY DAY/5000 FT

TRAIN ----------- RAILROAD------------

--------CLASS------- DIRECTION -----OPERATING PHASE----- ----TRACK/NO-----
FREIGHT        WEST    IN ROUTE      MAIN/001

--------------------------------------------------------------------------

ACCIDENT DESCRIPTION ----------------------------------------------------

TRACK FAILED; TRAIN 1 DERAILED, RESULTING IN DERAILED CARS CONTG. HAZARDOUS MATL.
SPEED OF TRAIN 1 WAS 550 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; BRAKES
WERE APPLIED.

--------------------------------------------------------------------------

PROBABLE CAUSES ---------------------------------------------------------

1. EXTREME HEAT
2. FAILURE OF CROSSSTIES DUE TO NORMAL DETERIORATION/WEAR
3. IMPROPERLY SECURED RAIL ANCHORAGES
4. DAMAGE BY NATURAL FORCES – TRACK BUCKLED DUE TO HEAT EXPANSION

--------------------------------------------------------------------------

OTHER FACTORS ----------------------------------------------------------

1. LACK OF SUPERVISION OF MAINTENANCE OF WAY PROCEDURE

--------------------------------------------------------------------------

CASUALTIES -----------------------------------------------

NONE

--------------------------------------------------------------------------

PROPERTY LOSSES --------------------------------------------

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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<td>$ 920,000</td>
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</table>
BRIEF OF RAILROAD ACCIDENT  #918859007

REPORTED BY:
SOUTHERN PACIFIC TRANSP.  Co.

LOCATION
REDDING, CALIFORNIA

--TIME--   --DATE--   WEATHER   ----VISIBILITY-----
0805 PST   09/05/93   CLEAR   DAY/5000 FT

TRAIN
1 SOUTHERN PACIFIC TRANSP. Co.

---CLASS---   DIRECTION   ---OPERATING PHASE-----   ---TRACK/NO---
FREIGHT   WEST   EN ROUTE   MAIN   OOT

**************************************************************************
ACCIDENT DESCRIPTION
**************************************************************************

EQUIPMENT COMPONENT FAILED; TRAIN 1 DERAILLED.
SPEED OF TRAIN 1 WAS 040 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

**************************************************************************
PROBABLE CAUSES
**************************************************************************

1. FAILURE OF ROLLER BEARING - DUE TO THERMAL DAMAGE

**************************************************************************
CASUALTIES
**************************************************************************

NONE

**************************************************************************
PROPERTY LOSSES
**************************************************************************

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NEAR-RAILROAD</th>
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<tbody>
<tr>
<td>$1,075,000</td>
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</table>
BRIEF OF RAILROAD ACCIDENT #DEN83F0033

REPORTED BY:
UNION PACIFIC RR

----------------LOCATION----------------
CHEYENNE, WYOMING

-------------------TIME---DATE---WEATHER---VISIBILITY-----
0535 RDT 08/28/83 CLEAR DAY/5000 FT

TRAIN -------------------RAILROAD-------------------

1 UNI ON PACIFIC RR

YARD/SWITCHING NORT H
SE TOUT/PICK UP NOT IN YARD INDUSTRIAL 000

---------------------------ACCIDENT DESCRIPTION--------------------------

EQUIPMENT COMPONENT FELL ON EMPLOYEE, RESULTING IN FATALITY.
TRAIN 7 WAS STOPPED, ENGINEER WAS AWARE OF IMMINENT ACCIDENT.

---------------------------PROBABLE CAUSES-----------------------------

1. IMPROPERLY SECURED CAR/LOCO DOOR
2. PROCEDURAL FAILURE - UNREPAIRED RETAINER LET PLUG DOOR FALL OFF CAR
3. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR
   OPERATING RULE 804A

---------------------------CASUALTIES-----------------------------

FATALITIES  INJURIES
1  0

---------------------------PROPERTY LOSSES-----------------------------

NONE

---------------------------PROBABLE CAUSES OF CASUALTIES-----------------------------

FAILURE OF RESTRAINT MECHANISM
REPORTED BY:
UNION PACIFIC RR

--------------------- LOCATION ---------------------

WASHTUTT, WYOMING

--- TIME --- DATE --- WEATHER --- VISIBILITY ---

1735 N/D 09/02/83 CLEAR DAY/4000 FT

TRAIN ----------- RAILROAD -----------

1 UNION PACIFIC RR

----------- CLASS ----------- DIRECTION --- OPERATING PHASE ---

FREIGHT UNIT TRAIN WEST EN ROUTE

------ TRACK/NO ------

MAIN 001

***************************** ACCIDENT DESCRIPTION *****************************

TRAIN 1 DERAILED, RESULTING IN DERAILED EQUIPMENT OBSTRUCTING TRACK.
SPEED OF TRAIN 1 WAS 054 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

***************************************************************

--------------------- PROBABLE CAUSES ---------------------

1. FAILURE OF WHEEL - DUE TO PREVIOUS THERMAL DAMAGE

--------------------- CASUALTIES ---------------------

NONE

--------------------- PROPERTY LOSSES ---------------------

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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<tbody>
<tr>
<td>$ 1,372,000</td>
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