### 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:**

- 83-85
- 83-44
- 83-49
- 83-61
- 83-63 through 69
- 83-72 through 77
- 83-79 through 93
- 83-95 through 103
- 83-106
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 42 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, 1982 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
National Transportation Safety Board

Railroad Field Offices

Effective June 1, 1984
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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 $1,000,000 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.
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<thead>
<tr>
<th>REPORTING RAILROAD</th>
<th>COLLISION</th>
<th>DEPARTMENT</th>
<th>EMPLOYEE FATALITY</th>
<th>PERSONAL FATALITY</th>
<th>GRADE CROSSING</th>
<th>TOTAL</th>
<th>MAX. INVOLVED</th>
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<td>BALTIMORE &amp; OHIO RR CO.</td>
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<td>PACIFIC &amp; NORTHERN RIVERS RR</td>
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<td>UNION PACIFIC RR</td>
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<td>LONG ISLAND RAILROAD (THE)</td>
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<td>NORFOLK AND WESTERN RY CO.</td>
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<td><strong>TOTAL</strong></td>
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<td><strong>22</strong></td>
<td><strong>5</strong></td>
<td><strong>5</strong></td>
<td><strong>1</strong></td>
<td><strong>39</strong></td>
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(1) NOT INCLUDED IN TOTAL RAILROAD ACCIDENTS/INCIDENTS INVESTIGATED
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<th>State</th>
<th>Collision</th>
<th>Derailment</th>
<th>Employee Fatality</th>
<th>Personal Fatality</th>
<th>Grade Crossing</th>
<th>Total</th>
<th>Max. Mat. (1) Involved</th>
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<tr>
<td>Wyoming</td>
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</tr>
</tbody>
</table>

| TOTAL        | 6         | 22         | 5                 | 5                 | 1             | 39    | 2                     |

(1) Not included in total railroad accidents/incidents investigated
TABLE 3
CASUALTIES BY CLASS OF PERSON AND ACCIDENT TYPE
(FIGURES BELOW REPRESENT A 3 MONTH PERIOD)

<table>
<thead>
<tr>
<th></th>
<th>Collision</th>
<th>Derailment</th>
<th>Personal Casualty</th>
<th>Grade Crossing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railroad Employees</td>
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<td></td>
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<tr>
<td>Fatalities</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>8</td>
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<tr>
<td>Injuries</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
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<tr>
<td>Passengers</td>
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<td>0</td>
<td>0</td>
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</tbody>
</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.
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<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>
</tr>
</thead>
<tbody>
<tr>
<td>Failure of Track Geometry Due to Forces Over Design Limits</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>1</td>
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<tr>
<td>Failure of Rail Due to Forces Over Design Limits</td>
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<td>1</td>
<td>0</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Failure of Track Geometry Due to Normal Deterioration/Wear</td>
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<td>0</td>
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<tr>
<td>Failure of Crossovers Due to Normal Deterioration/Wear</td>
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<tr>
<td>Failure of Rail and Track Hardware Due to Normal Deterioration/Wear</td>
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<td>Failure of Axles and Journals Due to Normal Deterioration/Wear</td>
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<td>1</td>
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<tr>
<td>Failure of Track Geometry Due to Unusual Deterioration/Wear</td>
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<td>Component Failures:</td>
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<td>Derailment</td>
<td>Employee Fatality</td>
<td>Personal Fatality</td>
<td>Grade Crossing</td>
<td>Total</td>
</tr>
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<td>Damage to Cap/Loco Body from Excessive Speed in Coupling</td>
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<th>Employee Fatality</th>
<th>Personal Fatality</th>
<th>Grade Crossing</th>
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</tr>
<tr>
<td>Inadequate Compliance with Procedure Prescribed by RR Operating Rule</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Failure to Properly Perform Procedure Prescribed by RR Operating Rule</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>PROCEDURAL FAILURES:</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>FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR GENERAL NOTICE/BULEETIN</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR TRAIN CREW SAFETY RULE</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY FEDERAL RR FREIGHT CAR SAFETY STANDARDS</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR WHEEL &amp; AXLE MANUAL</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR MAINTENANCE OF WAY DEPT. EMPLOYEE SAFETY RULE</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>PROCEDURAL FAILURE (UNSPECIFIED)</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>TOTAL (PROCEDURAL FAILURE)</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>0</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>
</tr>
</thead>
<tbody>
<tr>
<td>FAILURE OF PERSONNEL TO DETECT COMPONENT MALFUNCTION</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FAILURE OF PERSONNEL TO DETECT SIGNAL</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FAILURE OF PERSONNEL TO DETECT OTHER TRAIN</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 4
CAUSAL FACTORS BY ACCIDENT TYPE

(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>
</tr>
</thead>
<tbody>
<tr>
<td>Human Failures:</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>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>5</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>Fatigue</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Inattentiveness to Duties</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Distraction from Other Events</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Lack of Experience</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Lack of Instruction/Supervision</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ambiguous or Unclear Instructions Given</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Error in Judgment</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Willful Act of Individual</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Vehicle Operator's Error in Judgment</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Obstructed View</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<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>2</td>
</tr>
<tr>
<td>Failure of Person to Recognize Unauthorized Position on Car as Hazardous</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Human Failure (Unspecified)</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Total (Human Failures)</td>
<td>11</td>
<td>8</td>
<td>7</td>
<td>10</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>Non-Railroad Activities:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vandalism - Malicious Mischief</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Sabotage</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Damage by Non-Railroad Activities (Unspecified)</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total (Non-Railroad Activities)</strong></td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Natural Forces:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadbed Settlement</td>
</tr>
<tr>
<td>Extreme Heat</td>
</tr>
<tr>
<td>Trench Settlement Due to Water Action</td>
</tr>
<tr>
<td>Damage by Natural Forces (Unspecified)</td>
</tr>
<tr>
<td><strong>Total (Natural Forces)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System Design Inadequacies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to Provide Backup/Redundant Operating Mode</td>
</tr>
<tr>
<td>Lack of Adequate Communications</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td><strong>SYSTEM DESIGN INADEQUACIES:</strong></td>
</tr>
<tr>
<td>Lack of adequate instructions for performing necessary TPRI operation procedure</td>
</tr>
<tr>
<td>Lack of experience in performing necessary maintenance of WY procedure</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
</tr>
</tbody>
</table>
### Table 3:
CAUSAL FACTORS BY MAJOR CATEGORY AND ACCIDENT TYPE

*Figures refer to represent a 6 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>Max. Mat. (1) Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track and Structure Defects</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Equipment Failures</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Operating Practices</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Other (2)</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6</td>
<td>22</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>39</td>
<td>2</td>
</tr>
</tbody>
</table>

(1) Not included in total railroad accidents/incidents investigated.

(2) "Other" includes human error, 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:
AMTRAK

LOCATION:
PHILADELPHIA, PENNSYLVANIA

TIME:
0049 EST

DATE:
04/14/03

WEATHER:
CLEAN

VISIBILITY:
DARK/3000 FT

TRAIN:
AMTRAK

RAILROAD:

CLASS:
PAASSENGER

DIRECTION:
NORTH

OPERATING PHASE:
EN ROUTE

TRACK/NO:
RAIL 001

ACCIDENT DESCRIPTION:

TRAIN 1 STRUCK VEHICLE, RESULTING IN FATALITY. SPEED OF TRAIN 1 WAS 60 MPH; ENGINEER WAS AWARE OF IMMINING ACCIDENTS; BRAKES WERE APPLIED; HORN WAS SOUNDED.

PROBABLE CAUSES:

1. VEHICLE OPERATOR'S ERROR IN JUDGEMENT
2. LACK OF EXPERIENCE
3. LACK OF INSTRUCTION/SUPERVISION
4. HUMAN FAILURE - OPERATOR DID NOT LEAVE VEHICLE WHEN WARNED

CASUALTIES:

<table>
<thead>
<tr>
<th>FATALITIES</th>
<th>INJURIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

PROPERTY LOSSES:

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000</td>
<td>$25,000</td>
</tr>
</tbody>
</table>

PROBABLE CAUSES OF CASUALTIES:

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

**REPORTED BY:**
AMTRAK

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>TIME</th>
<th>DATE</th>
<th>WEATHER</th>
<th>VISIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLINTON, CONNECTICUT</td>
<td>0430 EST</td>
<td>04/28/83</td>
<td>CLEAR</td>
<td>DAY/2000 FT</td>
</tr>
</tbody>
</table>

**TRAIN**

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>CLASS</th>
<th>DIRECTION</th>
<th>OPERATING PHASE</th>
<th>TRACK/NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMTRAK</td>
<td>PASSENGER</td>
<td>EAST</td>
<td>EN ROUTE</td>
<td>MAIN 002</td>
</tr>
</tbody>
</table>

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

TRAIN 1 DERAILED, RESULTING IN DERAILED CARS.
SPEED OF TRAIN 1 WAS 075 MPH2 ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; BRAKES WERE APPLIED.

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

1. FAILURE OF TRUCK CENTER PLATE LINER DUE TO UNUSUAL DETERIORATION/WEAR

<table>
<thead>
<tr>
<th>CASUALTIES</th>
<th>PROPERTY LOSSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>RAILROAD</td>
</tr>
<tr>
<td></td>
<td>NON-RAILROAD</td>
</tr>
<tr>
<td>$ 387,000</td>
<td>$ 0</td>
</tr>
</tbody>
</table>
REPORTED BY: AMTRAK

---------- LOCATION ----------
NEW YORK, NEW YORK

---------- TIME ----------
0220 EST

---------- DATE ----------
05/24/83

---------- WEATHER ----------
N/A

---------- VISIBILITY ----------
TUNNEL/500 FT

TRAIN

---------- RAILROAD ----------
1 TRANSPORT OF NEW JERSEY
2 AMTRAK

---------- CLASS ----------
CUT OF CARS

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

---------- OPERATING PHASE ----------
MOVEMENT IN YARD

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

MAIN 001

******************************************************************************
************ ACCIDENT DESCRIPTION ************
******************************************************************************
CUT OF CARS STRUCK FRONT OF TRAIN 2; TRAIN 1 DERAILED, RESULTING IN DERAILED CARS;
TRAIN 1 DERAILED, RESULTING IN DERAILED LOCO.
SPEED OF TRAIN 1 IS UNKNOWN. TRAIN 2 WAS STOPPED; ENGINEER WAS AWARE OF IMPENDING
ACCIDENT; HORN WAS SOUNDED.

******************************************************************************
*************** PROBABLE CAUSES ***************
******************************************************************************
1. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR
   OPERATING RULE #931
2. PROCEDURAL FAILURE - NJT CONDUCTOR Did NOT SET SUFFICIENT
   HANDRAILS

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

---------- PROPERTY LOSSES ----------
RAILROAD $34,000
NON-RAILROAD $0
REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

---------------------- LOCATION ----------------------
SAN BERNARDINO, CALIFORNIA

------- TIME ------- DATE ------- WEATHER ------- VISIBILITY -------
0510 PDT 03/03/83 CLOUDY DAWN OF DUSK/600 FT

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

-------- CLASS -------- DIRECTION -------- OPERATING PHASE --------
EAST EN ROUTE MAIN 007

-------------------------------- ACCIDENT DESCRIPTION --------------------------------
TRAIN 1 STRUCK VEHICLE RESULTING IN DERAILMENT.
SPEED OF TRAIN 1 WAS 82 MPH. ENGINEER WAS AWARE OF IMPENDING ACCIDENTS, BRAKES WERE
APPLIED. HORN WAS SOUNDED.

--------------------------------- PROBABLE CAUSES ---------------------------------
1. INADEQUATE PERFORMANCE OF PROCEDEURES PRESCRIBED BY RR
   MAINTENANCE OF WAY INSTRUCTIONS #767
2. FAILURE OF PERSON TO DETECT APPROACHING TRAIN DUE TO ERROR IN
   JUDGEMENT

---------------------------------- CASUALTIES ----------------------------------
----------------------------------- FATALITIES INJURIES -----------------------------------
EMPLOYEES ON DUTY 0 1

---------------------------------- PROPERTY LOSSES ----------------------------------
RAILROAD NON-RAILROAD
$ 372,000 $ 3,000

-------------------------------- PROBABLE CAUSES OF CASUALTIES --------------------------------
1. THROWN FROM SEAT/POSITION IN COLLISION/DERAILMENT
REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

LOCATION: CADIZ, CALIFORNIA

TIME: 2145 PST
DATE: 04/27/83
WEATHER: CLOUDY
VISIBILITY: DARK/5280 FT

TRAIN: ATCHISON TOPEKA AND SANTA FE RY 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 045 MPH; ENGINEER WAS NOT AWARE OF IMPELLING ACCIDENT.

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

1. VANDALISM - MALICIOUS MISCHIEF
2. DAMAGE BY NON-RAILROAD ACTIVITIES - FACEING POINT SWITCH GAPED OPEN

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

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 62,000</td>
<td>$ 0</td>
</tr>
</tbody>
</table>
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20574

BRIEF OF RAILROAD ACCIDENT #FTW3/FP021

REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

-------------LOCATION-------------
FLAGSTAFF, ARIZONA

----------TIME----------
0415 MDT

----------DATE----------
05/17/93

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

----------VISIBILITY----------
DARK/3000 FT

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

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

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

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

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

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

TRAIN 1 DERAILED, RESULTING IN DERAILED EQUIPMENT OBSTRUCTING TRACK.
SPEED OF TRAIN 1 WAS 035 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. VISIBILITY
WAS AFFECTED BY TRACK ALIGNMENT.

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

1. BENT COUPLER STRIKING CASTING
2. FAILURE OF COUPLER STRIKING CASTING - HOOK STRIKER PLOW
   CAUSED SEVERE FORCES IN CURVE

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

NONE

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

   RAILROAD            NON-RAILROAD
$194,000                $0
**NATIONAL TRANSPORTATION SAFETY BOARD**
**WASHINGTON, D.C. 20594**

**REPORTED BY:**
Baltimore & Ohio RR Co.

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>TIME</th>
<th>DATE</th>
<th>WEATHER</th>
<th>VISIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECHO, PENNSYLVANIA</td>
<td>0750 EDT</td>
<td>05/04/83</td>
<td>CLOUDY</td>
<td>DAY/1000 FT</td>
</tr>
</tbody>
</table>

**TRAIN**
1 Baltimore & Ohio RR Co.

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>CLASS</th>
<th>DIRECTION</th>
<th>OPERATING PHASE</th>
<th>TRACK/NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREIGHT</td>
<td>NORTH</td>
<td>EN ROUTE</td>
<td>MAIN</td>
<td>001</td>
</tr>
</tbody>
</table>

**ACCIDENT DESCRIPTION**

TRACK COMPONENT FAILED; TRAIN 1 DERAILED, RESULTING IN SUBSTANTIAL RR DAMAGE.
SPEED OF TRAIN 1 WAS 531 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

**PROBABLE CAUSES**
1. FAILURE OF TRACK CROSS ELEVATION - EXCESSIVE LATERAL FORCES TO CAN WHEEL IN CURVE

**OTHER FACTORS**
1. FAILURE OF TRACK CROSS ELEVATION DUE TO NORMAL DETERIORATION/WEAR

**CASUALTIES**
NONE

**PROPERTY LOSSES**

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,200,000</td>
<td>$0</td>
</tr>
</tbody>
</table>
REPORTED BY: BURLINGTON NORTHERN INC.

--------------LOCATION-------------
PICKENSVILLE, ALABAMA

--TIME--   --DATE--   WEATHER   -----VISIBILITY-----
0535 CST    04/05/63    RAIN    DARK/0500 FT

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

---CLASS------ DIRECTION   OPERATING PHASE---- TRACK/NO---
FREIGHT    NORTH     EN ROUTE    MAIN  009

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

TRAIN 1 DERAILED, RESULTING IN DERAILED CARS
SPEED OF TRAIN 1 WAS 038 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

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

1. OVER HEATED ROLLER BEARING
2. FAILURE OF ROLLER BEARING

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

NONE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$315,000</td>
<td>$0</td>
</tr>
</tbody>
</table>
REPORTED BY: BURLINGTON NORTHERN INC.

LOCATION: CHICAGO, ILLINOIS

TIME: 1604 CST  DATE: 04/19/83  WEATHER: CLEAR  VISIBILITY: DAY/3000 FT

TRAIN: 1  RAILROAD: BURLINGTON NORTHERN INC.

CLASS: PASSENGER COMMUTER  DIRECTION: EAST  OPERATING PHASE: EN ROUTE  TRACK/NO: MAIN 003

ACCIDENT DESCRIPTION

EQUIPMENT COMPONENT STRUCK BRIDGE; TRAIN 1 STRUCK EQUIPMENT COMPONENT, RESULTING IN DERAILMENT; TRAIN 1 DERAILED, RESULTING IN INJURIES. SPEED OF TRAIN 1 WAS 040 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENT; BRAKES WERE APPLIED.

PROBABLE CAUSES

1. IMPROPERLY SECURED CAR/LOCOC DOOR
2. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY FEDERAL RR FREIGHT CAR SAFETY STANDARD 215.13
3. PROCEDURAL FAILURE - UNSECURED PLUG DOOR NOT DETECTED

CASUALTIES

FATALITIES  INJURIES

0  2

PROPERTY LOSSES

RAILROAD  NON-RAILROAD

$527,000  $0

PROBABLE CAUSES OF CASUALTIES

1. THROWN FROM SEAT/POSITION IN COLLISION/DERAILMENT
R E P O R T E D  B Y:
BURLINGTON NORTHERN INC.

--------------------- LOCATION ---------------------
MALLETT, OKLAHOMA

--------- TIME ---------
0945 CDT

-------- DATE --------
05/06/83

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

---------- VISIBILITY ---------
DAY/5000 FT

TRAIN

----------- RAILROAD -----------
BURLINGTON NORTHERN INC.

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

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

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

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


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

TRAIN 1 DERAILED, RESULTING IN DERAILED CARS.
SPEED OF TRAIN 1 WAS 032 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. VISIBILITY
WAS AFFECTED BY TRACK ALIGNMENT.


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

1. BROKEN JOINT BAR
2. FAILURE OF JOINT BAR - RAIL BADLY BATTERED NOT HELD IN PLACE
   BY GAPS


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

NONE


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

RAILROAD $ 385,000
NON-RAILROAD $ 0
REPORTED BY:
BURLINGTON NORTHERN INC.

LOCATION:
CICERO, ILLINOIS

--TIME--  --DATE--  WEATHER  --VISIBILITY--
1255 CDT  05/13/83  CLOUDY  DAY/UNKNOWN

TRAIN  RAILROAD  CLASS  DIRECTION  OPERATING PHASE  TRACK/NO
1  BURLINGTON NORTHERN INC.  CUT OF CARS  WEST  MAKEUP/BREAKUP  YARD  052

ACCIDENT DESCRIPTION
TRAIN 1 STRUCK TRACK COMPONENT; TRACK COMPONENT STRUCK EMPLOYEE; TRAIN 1 STRUCK
EMPLOYEE, RESULTING IN FATALITY; TRAIN 1 DERAILED.
SPEED OF TRAIN 1 WAS 003 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; BRAKES
WERE APPLIED.

PROBABLE CAUSES
1. HUMAN FAILURE - ERROR IN JUDGEMENT BY GANG FOREMAN
2. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE
   AS HAZARDOUS

CASUALTIES

<table>
<thead>
<tr>
<th></th>
<th>FATALITIES</th>
<th>INJURIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPLOYEES ON DUTY</td>
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<td>0</td>
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PROPERTY LOSSES

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<td>$0</td>
<td>1,000</td>
<td>$0</td>
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</table>

PROBABLE CAUSES OF CASUALTIES

1. STRUCK BY TRAIN
REPORTED BY:
BURLINGTON NORTHERN INC.

--------------------- LOCATION ---------------------
MALIN, OREGON

--TIME-- --DATE-- WEATHER -----VISIBILITY-----
0720 PDT 05/26/83 CLEAR DAY/0700 FT

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

--------- CLASS --------- DIRECTION -------OPERATING PHASE-------- -------TRACK/NO-------
FREIGHT WEST EN ROUTE MAIN 004

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

PERSONS TAMPERED WITH TRACK COMPONENT,
TRAIN 1 DERAILED, RESULTING IN DERAILED CARS,
SPEED OF TRAIN 1 WAS 640 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENT; BRAKES WERE
APPLIED. VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

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

1. SABOTAGE
2. DAMAGE BY NON-RAILROAD ACTIVITIES - VANDALS OPENED SWITCH FROM
RAIN INTO SIDING

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

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
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<tbody>
<tr>
<td>$ 385,000</td>
<td>$ 10,000</td>
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</table>
REPORTED BY:
BURLINGTON NORTHERN INC.

--------------------- LOCATION ---------------------
HOPE, IDAHO

--- TIME ---  --- DATE ---  --- WEATHER ---  --- VISIBILITY ---
1745 PDT  06/07/55  CLEAR  DAY/5000 FT

TRAIN  --- RAILROAD ---  --- CLASS ---  --- DIRECTION ---  --- OPERATING PHASE ---  --- TRACK/NO ---
1 BURLINGTON NORTHERN INC.  FREIGHT  EAST  EN ROUTE  MAIN  001

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

TRACK FAILED; TRAIN 1 DERAILLED, RESULTING IN DERAILED EQUIPMENT OBSTRUCTING TRACK. SPEED OF TRAIN 1 WAS 044 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENT. VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

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

1. IMPROPERLY SECURED RAIL
2. DAMAGE TO TRACK ALIGNMENT FROM NATURAL FORCES
3. EXTREME HEAT
4. DAMAGE BY NATURAL FORCES - TRACK BUCKLED DUE TO HEAT

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

NONE

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

RAILROAD  NON-RAILROAD
$571,000  $0
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #83-0103

REPORTED BY:
MCCORMICK CITY, COLORADO

TRAIN

1 BURLINGTON NORTHERN INC.

---TIME-- --DATE-- WEATHER --VISIBILITY--
0225 08/29/83 CLOUDY DAY/5000 FT

-----CLASS----- DIRECTION -----OPERATING PHASE----- ---TRACK/NO---
FREIGHT UNIT TRAIN EAST EN ROUTE MAIN 001

ACCIDENT DESCRIPTION

TRACK COMPONENT COLLAPSED BENEATH TRAIN 12; TRAIN 1 DERAILED.
SPEED OF TRAIN 1 WAS 052 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

PROBABLY CAUSES

1. FAILURE OF CROSSTIES DUE TO NORMAL DETERIORATION/WEAR
2. LOOSELY SECURED RAIL
3. FAILURE OF PERSONNEL TO DETECT COMPONENT MALFUNCTION
4. LACK OF EXPERIENCE IN PERFORMING NECESSARY MAINTENANCE OF WAY PROCEDURE
5. FAILURE OF CROSSTIES - TRACK INSPECTOR MISSED DAMAGED CROSSTIES

OTHER FACTORS

1. BROKEN RAIL

CASUALTIES

NONE

PROPERTY LOSSES

RAILROAD NON-RAILROAD
$ 394,000 $ 0
REPORTED BY:
CHESAPEAKE AND OHIO RY CO. (THE)

Location: LOST CREEK, WEST VIRGINIA
Time: 0100 EST
Date: 04/06/87
Weather: CLEAR
Visibility: DARK/660 FT

Train: CHESAPEAKE AND OHIO RY CO. (THE)
Class: FREIGHT
Direction: WEST
Operating Phase: SETOU/PIECKUP NOT IN YARD
Track/No: BRANCH 001

ACCIDENT DESCRIPTION

TRAIN 1 STRUCK REAR OF TRAIN 1, RESULTING IN EMPLOYEE CASUALTY; LOCOMOTIVE STRUCK REAR OF TRAIN 1. SPEED OF TRAIN 1 WAS 008 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; BRAKES WERE APPLIED. VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

PROBABLE CAUSES

1. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE #449
2. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE #906C
3. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE AS DANGEROUS

CASUALTIES

Fatalities: 0
Injuries: 1

PROPERTY LOSSES

RAILROAD: $1,000
NON-RAILROAD: $0

PROBABLE CAUSES OF CASUALTIES

1. STRUCK BY TRAIN
REPORTED BY: CHESSAPEAKE AND OHIO RY CO. (THE)

-------------------LOCATION-------------------
WILLIAMTOWN, MICHIGAN

---------TIME---------  DATE--------- WEATHER--------- VISIBILITY---------
1605 EDT  06/13/83  CLEAR  DAY/1000 FT

TRAIN --- RAILROAD--- ---CLASS--- DIRECTION ---OPERATING PHASE--- ---TRAIN NO---
1 CHESSAPEAKE AND OHIO RY CO. (THE)  FREIGHT UNIT TRAIN  WEST  EN ROUTE  MAIN  001

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

TRAIN 1 DERAILED, RESULTING IN DERAILED CARS.
SPEED OF TRAIN 1 WAS 045 MPH; ENGINEER WAS NOT AWARE OF IMMINING ACCIDENT.

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

1. DAMAGE TO TRACK ALIGNMENT FROM NATURAL FORCES
2. EXTREME HEAT
3. DAMAGE BY NATURAL FORCES - SUN KINK DUE TO HEAT

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

------ PROPERTY LOSSES ------
RAILROAD  NON-RAILROAD
$ 671,000  $ 0
REPORTER BY: CHICAGO MILWAUKEE ST PAUL & PACIFIC RR

LOCATION: LANSING, IOWA

TIME: 1805 CST

DATE: 01/23/83

WEATHER: CLOUDY

VISIBILITY: DAWN OR DUSK/1000 FT

TRAIN: CHICAGO MILWAUKEE ST PAUL & PACIFIC RR

CLASS: FREIGHT

DIRECTION: NORTH

OPERATING PHASE: EN ROUTE

TRACK/NO: MAIN 001

ACCIDENT DESCRIPTION

TRAIN 1 DERAILLED. SPEED OF TRAIN 1 WAS 032 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

PROBABLE CAUSES

1. DETERIORATION OF TRACK ALIGNMENT FROM TRAIN OPERATIONS
2. FAILURE OF TRACK CROSS ELEVATION DUE TO NORMAL DETERIORATION/WEAR

CASUALTIES: NONE

PROPERTY LOSSES:

RAILROAD: $448,000
NON-RAILROAD: $0
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

OPERA WORK OF RAILROAD ACCIDENT #NRC83FPO10

REPORTED AT:
CONSOLIDATED RAIL CORP.

LOCATION: COLUMBIA, PENNSYLVANIA

TIME: 0730 EST
DATE: 02/14/93
WEATHER: CLEAR

VISIBILITY: DAY/1800 FT

TRAIN:

CLASS:

DIRECTION:

OPERATING PHASE:

TRACK/NO:

CONSOLIDATED RAIL CORP.

2

FREIGHT

EAST

EN ROUTE

MAIN 002

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

TRAIN 1 STRUCK REAR OF TRAIN 2, RESULTING IN DERAILMENT.
TRAIN 2 WAS STopped; ENGINEER WAS NOT AWARE OF IMMINING ACCIDENT. VISIBILITY WAS
AFFECTED BY TRACK ALIGNMENT.

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

1. FAILURE OF PERSONNEL TO DETECT SIGNAL

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

NONE

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

RAILROAD

NON-RAILROAD

$ 193,000

1

0
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #NYC883F008

REPORTED BY:
CONSOLIDATED RAIL CORP.

----------------- LOCATION -----------------
COCHRANTON, PENNSYLVANIA

---------- TIME ---------- DATE ---------- WEATHER ---------- VISIBILITY ----------
0110 EST 04/05/83 CLEAR DARK/0500 FT

TRAIN ----------------- RAILROAD -----------------
CONSOLIDATED RAIL CORP.

---------- CLASS ---------- DIRECTION ---------- OPERATING PHASE ---------- TRACK/NO. ----------
FREIGHT UNIT TRAIN WEST MAKEUP/BREAKUP 001

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

TRAIN 1 DERAILED, RESULTING IN FIRE.
SPEED OF TRAIN 1 WAS 021 MPH; ENGINEER WAS NOT AWARE OF IMMINENT ACCIDENT. VISIBILITY
WAS AFFECTED BY TRACK ALIGNMENT.

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

1. FAILURE OF TRACK CROSS ELEVATION DUE TO UNUSUAL
DETERIORATION/WEAR

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

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

RAILROAD  NON-RAILROAD
$112,000  $30,000
REPORTED TO: CONSOLIDATED RAIL CORP.

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

--TIME--  --DATE--  WEATHER  -----VISIBILITY-----
1245 EDT  05/26/83  CLEAR  DAY/1000 FT

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

-------CLASS-------  DIRECTION  -----OPERATING PHASE------  ----TRACK/40-----
FREIGHT  FAST EN ROUTE  MAIN  002

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

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

TRAIN 1 STRUCK EMPLOYEE RESULTING IN FATALITY. SPEED OF TRAIN 1 WAS 046 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENT; BRAKES WERE APPLIED; VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

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

PROBABLE CAUSES

1. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR MAINTENANCE OF WAY DEPT. EMPLOYEE SAFETY RULE #5208
2. PROCEDURAL FAILURE - GATE WATCHMAN WAS NOT STATIONED CLEAR OF TRACKS

CASUALTIES

FATALITIES INJURIES

EMPLOYEES ON DUTY

1  0

PROPERTY LOSSES

NONE

PROBABLE CAUSES OF CASUALTIES

1. STRUCK BY TRAIN
REPORTED BY:
DENVER AND RIO GRANDE WESTERN RR CO.

--------------- LOCATION --------------
PALMER LAKE, COLORADO

----- TIME ----- DATE ----- WEATHER ----- VISIBILITY -----
1300 MDT 05/27/93 CLEAR DAY/5000 FT

TRAIN ------------ RAILROAD --------------
1 BURLINGTON NORTHERN INC.
2 DENVER AND RIO GRANDE WESTERN RR CO.

----- CLASS ----- DIRECTION ----- OPERATING PHASE ----- TRACK/NO ----
FREIGHT UNIT TRAIN  SOUTH  EN ROUTE  MAIN  007
FREIGHT  NORTH  EN ROUTE  MAIN  007

%%%%%%%%%%%%%%%%%%%% ACCIDENT DESCRIPTION %%%%%%%%%%%%%%%%%%%%%

TRAIN 1 STRUCK SIDE OF TRAIN 2, RESULTING IN DERAILMENT.
SPEED OF TRAIN 1 WAS 0 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. SPEED
OF TRAIN 2 WAS 70 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

%%%%%%%%%%%%%%%%%%% PROBABLE CAUSES %%%%%%%%%%%%%%%%%%%%%%%

1. FAILURE OF PERSONNEL TO DETECT SIGNAL DUE TO FATIGUE
2. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR
OPERATING RULE 321
3. HUMAN FAILURE - HEAD END CREW WAS ASLEEP AND MISSED STOP
SIGNAL

%%%%%%%%%%%%%%%%,,, CASUALTIES %%%%%%%%%%%%%%%%%%%%%%%%

FATALITIES  INJURIES

EMPLOYEES ON DUTY
0  2

%%%%%%%%%%%%%%%% PROPERTY LOSSES %%%%%%%%%%%%%%%%%

--------- RAILROAD --------- NON-RAILROAD ---------
$ 1,831,000  $ 0

%%%%%%%%%%%%%%%% PROBABLE CAUSES OF CASUALTIES %%%%%%%%%%%%%%%%%

1. FIRE
BRIEF OF RAILROAD ACCIDENT #DEN83FR031

REPORTED BY: DENVEP AND RIO GRANDE WESTERN RR CO.

LOCATION: GRAND JUNCTION, COLORADO

--TIME-- 0225 MDT
--DATE-- 06/16/83
WEATHER CLEAR
---VISIBILITY--- DARK/0900 FT

TRAIN DENVER AND RIO GRANDE WESTERN RR CO.

----CLASS---- CUT OF CARS
----DIRECTION---- WEST
---OPERATING PHASE--- MAKEUP/BREAKUP
---TRACK/NO---- YARD 031

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

CUT OF CARS STRUCK TRACK COMPONENT; CUT OF CARS DERAILED, RESULTING IN DERAILED CARS CONTAINING HAZARDOUS MATERIAL.
SPEED OF TRAIN 1 WAS 005 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

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

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

1. PROCEDURAL FAILURE - CARS ROLLED OUT OVER DERAILED TRACK NOT SKATED
2. AMBIGUOUS OR UNCLEAR INSTRUCTIONS GIVEN
3. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR GENERAL NOTICE/BULLETIN #1671
4. LACK OF ADEQUATE INSTRUCTIONS FOR PERFORMING NECESSARY TRAIN OPERATION PROCEDURE

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

NONE

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

RAILROAD $13,000
NON-RAILROAD $0
REPORTED BY: ILLINOIS CENTRAL GULF RR

LOCATION: HARVEY, ILLINOIS

TIME: 1408 CDT DATE: 05/31/83 WEATHER: CLOUDY VISIBILITY: DAY/9990 FT

TRAIN: ILLINOIS CENTRAL GULF RR CLASS: YARD/SWITCHING DIRECTION: SOUTH OPERATING PHASE: EN ROUTE TRACK/NO: MAIN 001

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

TRAIN 1 STRUCK EMPLOYEE, RESULTING IN FATALITY.
SPEED OF TRAIN 1 WAS 025 MPH; ENGINEER WAS AWARE OF IMPELLING ACCIDENT; BRAKES WERE APPLIED.

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

1. FAILURE OF PERSON TO DETECT APPROACHING TRAIN DUE TO DISTRACTION BY OTHER EVENTS
2. HUMAN FAILURE - COULD NOT HEAR TRAIN DUE TO NOISE OF TAMPER

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

Fatalities: 0 Injuries: 1

EMPLOYEES ON DUTY: 1 0

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

1. STRUCK BY TRAIN
REPORTED BY:
LONG ISLAND RAILROAD (THE)

LOCATION INSTRUMENT:
CENTRAL ISLIP, NEW YORK

--TIME--  --DATE--  WEATHER  ---VISIBILITY---
1843 EDT  06/14/83  CLEAR  DAY/1000 FT

TRAIN  RAILROAD  CLASS  DIRECTION  OPERATING PHASE  TRACK/NO
1  LONG ISLAND RAILROAD (THE)  PASSENGER COMMUTER  EAST  EN ROUTE  MAIN  001

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

PASSENGER ALIGHTED FROM TRAIN 1; TRAIN 1 STRUCK PASSENGER.
SPEED OF TRAIN 1 WAS 020 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; BRAKES WERE NOT APPLIED.

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

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

1. WILLFUL ACT OF INDIVIDUAL DUE TO ERROR IN JUDGMENT
2. HUMAN FAILURE - PASSENGER MISSED STOP, JUMPED FROM MOVING TRAIN

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

FATALITIES  INJURIES
1  0

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

NONE

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

1. JUMPED FROM TRAIN
BRIEF OF RAILROAD ACCIDENT #NYC075708

REPORTED BY:
MASSACHUSETTS BAY TRANSPORTATION AUTH.

LOCATION:
BOSTON, MASSACHUSETTS

--- TIME --- --- DATE --- WEATHER --- VISIBILITY ---
0225 EDT 06/23/91 N/A TUWFL/0100 FT

TRAIN --- RAILROAD --- --- CLASS --- DIRECTION --- OPERATING PHASE --- --- TRACK/NO ---
1 MASSACHUSETTS BAY TRANSPORTATION AUTH. PASSENGER TRANSIT EAST EN ROUTE RAIN 001
2 MASSACHUSETTS BAY TRANSPORTATION AUTH. PASSENGER TRANSIT EAST EN ROUTE RAIN 001

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

TRAIN 1 STRUCK REAR OF TRAIN 2.
SPEED OF TRAIN 1 IS UNKNOWN; ENGINEER WAS AWARE OF IMPENDING ACCIDENT; BRAKES WERE
APPLIED. TRAIN 2 WAS STOPPED; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; VISIBILITY
WAS AFFECTED BY TRACK ALIGNMENT.

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

1. FAILURE TO PROPERLY PERFORM PROCEDURE AS DESCRIBED IN OP.
   OPERATING RULE #4
2. FAILURE OF PERSONNEL TO DETECT SIGNAL DUE TO INATTENTIVENESS
   TO DUTIES
3. PROCEDURAL FAILURE - TROLLEY CARS OPERATED WITH EXCESSIVE
   SPEED

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

NONE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
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<td>$27,000</td>
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REPORTED BY:
MISSOURI PACIFIC RR CO.

-------------------LOCATION---------------
FORT WORTH, TEXAS

-------------TIME------------------
1350 CST

----------DATE------------
04/08/83

---WEATHER------
CLOUDY

-------------VISIBILITY-------------
DAY/1000 FT

TRAIN ----------- RAILROAD---------------
1 MISSOURI PACIFIC RR CO.

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

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

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

-------TRACK/#-------
MAIN 002

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

TRAIN 1 STRUCK EMPLOYEE, RESULTING IN CASUALTY.
SPEED OF TRAIN 1 WAS 052 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENTS; BRAKES WERE
APPLIED. VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.

====================================
PROBABLE CAUSES -------------------

1. FAILURE TO PERFORM PROCEDURE PRESCRIBED BY RR MAINTENANCE OF
WAY DEPT.; EMPLOYEE SAFETY RULE 25.37
2. FAILURE OF PERSONNEL TO DETECT OTHER TRAIN DUE TO OBSTRUCTED
VIEW OF RAILROAD
3. LACK OF OR INADEQUATE COMMUNICATIONS DUE TO DISTRACTION BY
OTHER EVENTS

====================================
CASUALTIES -------------

FATALITIES  INJURIES

EMPLOYEES ON DUTY
1 0

PROPERTY LOSSES -----NONE-----

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

1. STRUCK BY TRAIN
REPORTED BY:
MISSOURI PACIFIC RR CO.

----------------------------- LOCATION -----------------------------
MALVERN, ARKANSAS

--TIME--  --DATE--  WEATHER  --VISIBILITY--
1915 CST  04/17/83  CLEAR  DAWN OR DUSK/1200 FT

TRAIN -------------------------- RAILROAD --------------------------
1 MISSOURI PACIFIC RR CO.

------------------ CLASS ------------------ DIRECTION  ---- OPERATING PHASE ----
LOCAL FREIGHT  SOUTH  MOVEMENT IN YARD

------------------------------- TRACK/NO ----------------------------
YARD  004

********************************************************** ACCIDENT DESCRIPTION **********************************************************
TRAIN 1 STRUCK FRONT OF CUT OF CARS; TRAIN 1 DERAILED; DERAILED EQUIPMENT
STRUCK CUT OF CARS; CUT OF CARS STRUCK EMPLOYEE, RESULTING IN FATALITY.
SPEED OF TRAIN 1 WAS 011 MPH; ENGINEER WAS AWARE OF IMPENDING ACCIDENT.

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

1. INADEQUATE PERFORMANCE OF PROCEDURE PRESCRIBED BY RR OPERATING
   RULE #103
2. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE
   AS HAZARDOUS DUE TO VEHICLE OPERATOR'S ERROR IN JUDGEMENT
3. HUMAN FAILURE - FAILED TO CONTROL TRAIN SPEED WHEN COUPLING
   CARS

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

FATALITIES  INJURIES
EMPLOYEES ON DUTY  1  0

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

RAILROAD  NON-RAILROAD
$ 26,000  $ 0

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

1. STRUCK BY TRAIN
REPORTED BY: MISSOURI PACIFIC RR CO.

LOCATION: EARS, COLORADO

TIME: 1330 HDT
DATE: 04/24/93
WEATHER: CLEAR

VISIBILITY: DAY/5000 FT

TRAIN: DENVER AND RIO GRANDE WESTERN RR CO.

CLASS: FREIGHT

DIRECTION: WEST

OPERATING PHASE: EN ROUTE

TRACK/NO: 001

ACCIDENT DESCRIPTION:

TRAIN 1 DERAILED, RESULTING IN DERAILED EQUIPMENT OBSTRUCTING TRACK.
SPEED OF TRAIN 1 WAS 035 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

PROBABLE CAUSES:

1. BROKEN WHEEL
2. FAILURE OF WHEEL - WHEEL HAD SUBSURFACE RIM CRACKS

CASUALTIES:

NONE

PROPERTY LOSSES:

RAILROAD: $521,000
NON-RAILROAD: $0
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #85039960

REPORTED BY:
MISSOURI PACIFIC RR CO.

-------------------LOCATION-------------------
VILLA GROVE, ILLINOIS

-------------------TIME-------------------
2200 CDT

-------------------DATE-------------------
03/03/83

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

-------------------VISIBILITY-------------------
DARK/UNKNOWN

TRAIN -------------------RAILROAD-------------------
1 MISSOURI PACIFIC RR CO.

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

-------------------DIRECTION-------------------
SOUTH

-------------------OPERATING PHASE-------------------
MAKEUP/BREAKUP

-------------------TRACK/NO-------------------
YARD 006

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

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

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

1. USE OF INTOXICANTS
2. FAILURE OF EMPLOYEE TO RECOGNIZE POSITION ON TRACK AS HAZARDOUS

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

FATALITIES INJURIES

EMPLOYEES ON DUTY

1 0

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

NONE

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

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

REPORTED BY:
MISSOURI PACIFIC RR CO.

-------------------LOCATION-------------------
PYATT, ARKANSAS

---------TIME---------
0245 CST

---------DATE--------
05/30/83

---------WEATHER------
CLOUDBY

---------VISIBILITY----
DARK/0500 FT

TRAIN 1

-------------------RAILROAD-------------------
MISSOURI PACIFIC RR CO.

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

---------DIRECTION-----
SOUTH

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

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

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

TRAIN 1 DERAILED.
SPEED OF TRAIN 1 WAS 020 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. VISIBILITY
WAS AFFECTED BY TRACK ALIGNMENT.

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

INJURED

PROBABLE CAUSES

1. DAMAGE TO TRACK CROSS ELEVATION FROM NATURAL FORCES
2. ROADBED SETTLEMENT
3. TRENCH SETTLEMENT DUE TO WATER ACTION
4. DAMAGE BY NATURAL FORCES - POOR DRAINAGE CAUSED TRACK
SUBSIDENCE

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

CASUALTIES

MCRE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 243,000</td>
<td>$ 0</td>
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</tbody>
</table>
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C. 20594  

BRIEF OF RAILROAD ACCIDENT \#NYC83IN020  

REPORTED BY:  
NEW YORK CITY TRANSIT AUTHORITY  

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>TIME</th>
<th>DATE</th>
<th>WEATHER</th>
<th>VISIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW YORK, NEW YORK</td>
<td>2130 EST</td>
<td>04/19/83</td>
<td>N/A</td>
<td>TUNNEL/0070 FT</td>
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<table>
<thead>
<tr>
<th>CLASS</th>
<th>DIRECTION</th>
<th>OPERATING PHASE</th>
<th>TRACK/NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASSENGER TRANSIT</td>
<td>SOUTH</td>
<td>EN ROUTE</td>
<td>MAIN 002</td>
</tr>
</tbody>
</table>

----------------- ACCIDENT DESCRIPTION -----------------  
PASSSENGER FELL FROM TRAIN 1, RESULTING IN FATALITY.  
SPEED OF TRAIN 1 WAS 008 MPH; CONDUCTOR WAS NOT AWARE OF IMPENDING ACCIDENT. VISIBILITY WAS AFFECTED BY TRACK ALIGNMENT.  

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

1. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE AS HAZARDOUS  
2. OBSTRUCTED VIEW  
3. DAMAGE BY NON-RAILROAD ACTIVITIES - CONDUCTOR VIEW LIMITED DUE TO MISSING MIRROR  
4. VANDALISM, MALICIOUS MISCHIEF  
5. FAILURE OF CREW TO OBSERVE PASSENGER BOARDING TRAIN

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

1. LACK OF INSTRUCTION/SUPERVISION

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

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

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

NONE

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

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

BRIEF OF RAILROAD ACCIDENT PHC93FR026

REPORTED BY:
NEW YORK CITY TRANSIT AUTHORITY

-------------------LOCATION-------------------
NEW YORK, NEW YORK

----------TIME----------
1730 EDT

----------DATE----------
05/10/93

----------WEATHER----------
N/A

----------VISIBILITY----------
TUNNEL/0100 FT

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

----------CLASS----------
PASSENGER TRANSIT

----------DIRECTION----------
SOUTH

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

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

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

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

TRACK COMPONENT FAILED; TRAIN 1 DERAILED, RESULTING IN SUBSTANTIAL RR PROPERTY DAMAGE.
SPEED OF TRAIN 1 WAS 025 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. VISIBILITY
WAS AFFECTED BY TRACK ALIGNMENT.

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

PROBABLE CAUSES

1. FAILURE OF CROSSTIES DUE TO NORMAL DETERIORATION/WEAR
2. FAILURE OF SPIKES AND RAIL FASTENERS DUE TO FORCES OVER DESIGN
   LIMITS
3. FAILURE OF CURVE SUPERELEVATION DUE TO NORMAL
   DETERIORATION/WEAR
4. FAILURE OF PERSONNEL TO DETECT COMPONENT MALFUNCTION
5. FAILURE TO PERFORM PROCEDURE PRESCRIBED BY RR MAINTENANCE OF
   WAY INSTRUCTIONS

CASUALTIES

NONE

PROPERTY LOSSES

RAILROAD
$84,000

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

BRIEF OF RAILROAD ACCIDENT 83-0093

REPORTED BY:
NEW YORK CITY TRANSIT AUTHORITY

--- LOCATION ---
BRONX, NEW YORK

--- TIME ---
0921 EDT

--- DATE ---
06/06/83

--- WEATHER ---
N/A

--- VISIBILITY ---
TUNNEL/GOOD WT

--- TRAIN ---
NEW YORK CITY TRANSIT AUTHORITY

--- RAILROAD ---

--- CLASS ---
PASSENGER TRANSIT

--- DIRECTION ---
SOUTH

--- OPERATING PHASE ---
EN ROUTE

--- TRACK/NO ---
MAIN 002

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

PASSENGER FELL FROM TRAIN 1; TRAIN 1 STRUCK PASSENGER, RESULTING IN FATALITY.
SPEED OF TRAIN 1 IS UNKNOWN; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; BRAKES
WERE APPLIED.

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

PROBABLE CAUSES

1. WILLFUL ACT OF INDIVIDUAL
2. FAILURE OF PERSON TO RECOGNIZE UNAUTHORIZED POSITION ON CAR AS
   HAZARDOUS
3. HUMAN FAILURE — PASSENGER WARNED TO GET INSIDE CAR BUT FELL OFF

CASUALTIES

FATALITIES INJURIES

PASSENGERS

1 0

PROPERTY LOSSES

NONE

PROBABLE CAUSES OF CASUALTIES

1. STRUCK BY TRAIN
REPORTED BY:
NEW YORK CITY TRANSIT AUTHORITY

----------------LOCATION----------------
NEW YORK, NEW YORK

-------------TIME-------------
0809 EDT

------DATE------
06/15/93

WEATHER
CLEAR

-------------VISIBILITY-------------
DAY/0800 FT

TRAIN --------------RAILROAD-------------
NEW YORK CITY TRANSIT AUTHORITY

-------------CLASS-------------
PASSENGER TRANSIT

DIRECTION
SOUTH

OPERATING PHASE
EN ROUTE

TRACK/NO
MAIN 002

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

PASSENGER FELL FROM TRAIN 12; TRAIN 1 STRUCK PASSENGER, RESULTING IN FATALITY.
SPEED OF TRAIN 1 WAS 005 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT; BRAKES
WERE APPLIED.

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

1. HUMAN FAILURE - POLICEMAN FELL BETWEEN CARS

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

FATALITIES INJURIES

PASSENGERS
1 0

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

1. FALLING/TRIPPING
REPORTED BY:
NEW YORK CITY TRANSIT AUTHORITY

LOCATION: NEW YORK, NEW YORK

TIME: 1745 EDT
DATE: 06/16/93
WEATHER: N/A
VISIBILITY: TUNNEL/1000 FT

TRAIN: NEW YORK CITY TRANSIT AUTHORITY
RAILROAD: PASSENGER TRANSIT
CLASS: NORTH
DIRECTION: EN ROUTE
OPERATING PHASE: MAIN
TRACK/NO.: 004

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

PASSENGER FELL FROM TRAIN 1; TRAIN 1 STRUCK PASSENGER, RESULTING IN FATALITY.
SPEED OF TRAIN 1 WAS 040 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

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

PROBABLE CAUSES

1. FAILURE OF PERSON TO RECOGNIZE UNAUTHORIZED POSITION ON CAR AS HAZARDOUS
2. HUMAN FAILURE = YOUTH WAS DANCING ON GATES BETWEEN SUBWAY CARS

CASUALTIES

FATALITIES
INJURIES

PASSENGERS
1
0

PROPERTY LOSSES

NONE

PROBABLE CAUSES OF CASUALTIES

1. THROWN FROM TRAIN
REPORTED BY:
NORFOLK AND WESTERN RY. CO.

----------------- LOCATION -----------------
MATEWAN, WEST VIRGINIA

--TIME--  --DATE--  WEATHER  --VISIBILITY--
0420 EST  06/03/83  CLEAR  DAY/9990 FT

TRAIN  RAILROAD  CLASS  DIRECTION  OPERATING PHASE  TRACK/NO
1 NORFOLK AND WESTERN RY CO.  FREIGHT  WEST  EN ROUTE  MAIN  001

*********************************************************
AUTHOR'S DESCRIPTION **************************************

TRAIN 1 DERAILED, RESULTING IN RELEASE OF TOXIC AGENTS.
SPEED OF TRAIN 1 WAS 042 MPH.

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

PRINCIPAL CAUSES ******************************************

1. HUMAN FAILURE - UNDETERMINED--POSSIBLY OVERSPEED TURNED RAIL
OVER IN 6-DEGREE CURVE WITH 35 MPH SPEED RESTRICTION

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

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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</thead>
<tbody>
<tr>
<td>$45,000</td>
<td>$0</td>
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</table>
REPORTED BY: PATAPSCO & BACK RIVERS PR

---------LOCATION---------
SPARROWS POINT, MARYLAND

--TIME-- --DATE-- WEATHER ------VISIBILITY------
2050 EST 04/22/83 CLEAR DARK/O550 FT

TRAIN -----------RAILROAD-----------
1 PATAPSCO & BACK RIVERS RR

--------CLASS-------- DIRECTION ------OPERATING PHASE------
YARD/SWITCHING N/A MOVEMENT IN YARD MAIN

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

ACCIDENT DESCRIPTION

EMPLOYEE FELL ON TRACK, RESULTING IN EMPLOYEE CASUALTY; TRAIN 1 STRUCK EMPLOYEE,
RESULTING IN FATALITY.
SPEED OF TRAIN 1 WAS 004 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

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

PROBABLE CAUSES

1. PROCEDURAL FAILURE - BRAKEMAN CROSSED IN FRONT OF MOVING CARS
2. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR TRAIN
    CREW SAFETY RULE #4

CASUALTIES

FATALITIES INJURIES

EMPLOYEES ON DUTY
1 0

PROPERTY LOSSES
NONE

PROBABLE CAUSES OF CASUALTIES

1. STRUCK BY TRAIN
REPORTED BY:
SOUTHERN PACIFIC TRANSP. CO.

---------------LOCATION---------------
ELKO, NEVADA

---TIME---  ---DATE---  WEATHER  ---VISIBILITY---
0715 PST   04/09/83    CLEAR    DAY/5200 FT

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

1 SOUTHERN PACIFIC TRANSP. CO.

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

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

TRAIN 1 DERAILED; RESULTING IN DERAILED EQUIPMENT OBSTRUCTING TRACK.
SPEED OF TRAIN 1 WAS 050 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

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

1. OVER HEATED ROLLER BEARING
2. FAILURE OF AXLE JOURNAL - THERMAL DAMAGE DUE TO LACK OF
   LUBRICATION

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

NONE

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

RAILROAD  NON-RAILROAD
$ 698,000   $ 0
REPORTED BY:
SOUTHERN PACIFIC TRANSP. CO.

---------- LOCATION ----------
MODOC POINT, OREGON

-------- TIME --------
0120 PDT

-------- DATE --------
05/15/83

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

-------- VISIBILITY --------
DARK/6000 FT

TRAIN

---------- RAILROAD ----------
SOUTHERN PACIFIC TRANSP. 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 030 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

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

1. FAILURE OF ROLLER BEARING ADAPTOR DUE TO NORMAL DETERIORATION/WEAR
2. FAILURE OF ROLLER BEARING DUE TO UNUSUAL DETERIORATION/WEAR
3. OVER HEATED ROLLER BEARING
4. FAILURE OF AXLE JOURNAL DUE TO UNUSUAL DETERIORATION/WEAR

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

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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<tr>
<td>$570,000</td>
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</table>
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #DEN83FR027

REPORTED BY:
SOUTHERN PACIFIC TRANSP. CO.

---------------LOCATION---------------
MARCEL, CALIFORNIA

----------TIME----------
1415 PDT

--DATE--
05/20/83

WEATHER
CLEAR

--------VISIBILITY--------
DAY/R000 FT

TRAIN
---------------RAILROAD---------------
1 ATCHISON TOPEKA AND SANTA FE RY 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 025 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT. VISIBILITY
WAS AFFECTED BY TRACK ALIGNMENT.

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

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

1. ERRONEOUS PROCEDURE USED IN MFG/CONSTRUCTION RAIL
2. PROCEDURAL FAILURE - RAIL WELD IMPROPERLY COOLED

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

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

RAILROAD
$350,000

NON-RAILROAD
$0
REPORTED BY:
UNION PACIFIC RR

---------- LOCATION ----------
SODA SPRINGS, IDAHO

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

---------- DATE ----------
04/17/83

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

---------- VISIBILITY ----------
BAKED/O500 FT

TRAIN

---------- RAILROAD ----------
1 UNION PACIFIC RR

---------- CLASS ----------
LOCAL FREIGHT

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

---------- OPERATING PHASE ----------
SETOUT/PICKUP NOT IN YARD

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

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

TRAIN 1 STRUCK SIDE OF CUT OF CARS, RESULTING IN DERAILMENT.
SPEED OF TRAIN 1 WAS 004 MPH; ENGINEER WAS NOT AWARE OF IMPENDING ACCIDENT.

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

1. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE 88049

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

1. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE AS HAZARDOUS
2. ERROR IN JUDGEMENT

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

NONE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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</thead>
<tbody>
<tr>
<td>$294,000</td>
<td>$0</td>
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</table>
## Brief of Railroad Accident #DEN8YFQ029

### Reported By:
| UNION PACIFIC RR |

**Location:** Point of Rocks, Wyoming  
**Time:** 1520 NDT  
**Date:** 05/03/83  
**Weather:** Clear  
**Visibility:** Day/9000 ft

### Train:
|  | FREIGHT UNIT TRAIN  
**Class:**  
**Direction:** East  
**Operating Phase:** En Route  
**Track/No.:** MAIN 003

### Accident Description:
Train 1 derailed, resulting in derailed equipment obstructing track.  
Speed of train 1 was 32 MPH; engineer was not aware of impending accident. Visibility was affected by track alignment.

### Probable Causes:
1. Failure of rail tread due to normal deterioration/weight  
2. Failure of rail - worn rail high lateral force caused wheel climb

### Casualties:
None

### Property Losses:

<table>
<thead>
<tr>
<th></th>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
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<tbody>
<tr>
<td>Total</td>
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