NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20594

RAILROAD ACCIDENT REPORTS

BRIEF FORMAT
ISSUE NUMBER 2 -- 1985

NTSB/RAB-87/01

UNITED STATES GOVERNMENT

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## Author(s)

National Transportation Safety Board
Bureau of Field Operations
Washington, D.C. 20594

## Performing Organization Name and Address

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20594

## Abstract

This publication contains briefs of selected railroad accidents occurring in U.S. Railroad operations. The brief format presents basic facts, conditions, circumstances, and probable cause(s) in each instance. Additional statistical information is tabulated by types of accidents and casualties related to types of accidents, carriers involved, and causal factors.

Sequence numbers:

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## Key Words

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21. No. of Pages  53
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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 43 U.S. railroad accidents arranged in alphabetical order by railroad company name and tabulations of selected accident information including (1) types of accidents by carrier, (2) types of accidents by state, (3) casualties by types of accident and classes of persons, and (4) causal factors arranged by categories, types and numbers of accidents. These brief format reports are published quarterly on a calendar year basis and mostly include summaries of field investigations conducted by the Board's six railroad field offices. (See figure 1.) The briefs also contain data extracted from reports of investigations of major accidents which may be distinguished from the field investigations by the reference to the published National Transportation Safety Board major accident report under the probable cause section.

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

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

No part of any report or reports of the Board, relating to any accident or the investigation thereof, shall be admitted as evidence or used in any suit or action for damages growing out of any matter mentioned in such report or reports.
For those readers who wish more detailed information, the original factual reports for both field and major accidents are on file in the Washington, D.C., office of the National Transportation Safety Board and may be examined. These reports will be reproduced for a fee covering reproduction cost and postage. Orders for material also are subject to a user charge by the Board for special services, and such charge will be included in the bill.

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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 $150,000 or more to railroad and nonrailroad property; or

2. All accidents involving passenger trains.
<table>
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<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>HAZ. MAT. (1) INVOLVED</th>
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<td>ATCHISON TOPEKA AND SANTA FE RY CO.</td>
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(1) Not included in total railroad accidents/incidents investigated
### Table 2:

**Accidents by State and Type**

*(Figures below represent a 6 month period)*

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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) Involves</th>
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**Total**

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<th>Derailment</th>
<th>Employee Fatality</th>
<th>Personal Fatality</th>
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*(1) Not included in total railroad accidents/incidents investigated*
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<th></th>
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<th>Personal Casualty</th>
<th>Grade Crossing</th>
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**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>Track and Structure Defects</th>
<th>Collision</th>
<th>Derailment</th>
<th>Employee Fatality</th>
<th>Personal Fatality</th>
<th>Grade Crossing</th>
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<td>3</td>
<td>40</td>
<td>8</td>
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</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: ATCHISON TOPEKA AND SANTA FE RY CO.

LOCATION: CLEBURNE, TEXAS

TIME: 2130 CDT
DATE: 07/13/85
WEATHER: CLEAR
VISIBILITY: DARK/1000 FT

TRAIN: 1
RAILROAD: ATCHISON TOPEKA AND SANTA FE RY CO.
CLASS: CUT OF CARS
DIRECTION: NORTH
OPERATING PHASE: MAKEUP/BREAKUP
TRACK/NR: 002

ACCIDENT DESCRIPTION

ABOUT 9:30 P.M. ON JULY 13, 1985, SWITCHING YARD JOB NUMBER 202, ASSIGNED TO SWITCHING CARS IN THE YARD IN CLEBURNE, TEXAS, HAN OVER ONE OF THE SWITCH CREW MEMBERS WHILE SWITCHING OPERATIONS WERE BEING PERFORMED. THE SWITCH CREW CONSISTED OF A FOREMAN, AN ENGINEER, A PIN PULLER AND A FIELDMAN. THE CREW WAS EQUIPPED WITH PORTABLE RADIOS FOR COMMUNICATION WHEN LONG CUTS OF CARS WERE HANDLED. MOST OF THE COMMUNICATIONS WERE ACCOMPLISHED WITH HAND SIGNALS. ALL OF THE CREW MEMBERS WERE EXPERIENCED AND FAMILIAR WITH THEIR DUTIES AND THE YARD LAYOUT.

PROBABLE CAUSES

1. FAILURE OF PERSON TO DETECT APPROACHING TRAIN DUE TO INATTENTIVENESS TO DUTIES
2. HUMAN FAILURE - SWITCHMAN TURNED HIS BACK TOWARD ONCOMING CARS

CASUALTIES

FATALITIES: 1
INJURIES: 0

PROPERTY LOSSES

NONE

PROBABLE CAUSES OF CASUALTIES

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

---LOCATION------TIME--DATE--WEATHER------VISIBILITY-----
JOFFRE, NEW MEXICO 0810 MDT 07/31/85 CLEAR DAY/3000 FT

TRAIN -----------RAILROAD---------CLASS-----DIRECTION-----OPERATING PHASE-----TRACK/NO----
1 ATCHISON TOPEKA AND SANTA FE RY CO. FREIGHT EAST EN ROUTE MAIN 002
2 ATCHISON TOPEKA AND SANTA FE RY CO. FREIGHT WEST EN ROUTE MAIN 002

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

*************** PROBABLE CAUSES **************
1. HUMAN FAILURE - DID NOT SLOW TRAIN SPEED PER SIGNAL INDICATION
2. FAILURE TO PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE 41285

*************** OTHER FACTORS **************
1. FAILURE OF PERSONNEL TO RECOGNIZE IMPROPER OPERATING PROCEDURE AS HAZARDOUS DUE TO ERROR IN JUDGEMENT

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

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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</thead>
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</tbody>
</table>
REPORTED BY: ATCHISON TOPEKA AND SANTA FE RY CO.

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

VALENTINE, ARIZONA 0445 MST 08/12/85 CLEAR DAWN OR DUSK/1000 FT

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

1 ATCHISON TOPEKA AND SANTA FE RY CO. FREIGHT WEST EN ROUTE MAIN 001

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

UNIT FREIGHT TRAIN EXTRA 5368 WEST, CONSISTING OF 4 LOCOMOTIVE UNITS AND 70 CARS, HAD 30 CARS DERAILED WHILE MOVING 15 MPH. SIXTY-NINE OF THE CARS IN THE TRAIN WERE LOADED FLAT CARS CARRYING TRAILERS AND/OR CONTAINERS. THREE OF THE DERAILED CARS CARRIED VARIOUS TYPES OF HAZARDOUS MATERIALS. FOUR MILES NORTH OF THE GENERAL DERAILMENT, 1 OF THE CARS HAD DERAILLED IN AN 8 DEGREE CURVE IN A DESCENDING GRADE WHILE THE TRAIN SPEED WAS BEING REDUCED FROM 50 MPH TO 20 MPH. AFTER THE GENERAL DERAILED, A FIRE BROKE OUT IN THE WRECKAGE. ABOUT 30 DIFFERENT HAZARDOUS MATERIALS BURNED IN THE FIRE. AN AREA 20 MILES WIDE WAS EVACUATED, INvolVING 3 SMALL TOWNS OF ABOUT 200 PEOPLE AND THE CLOSING OF U.S. HIGHWAY 80. CONSIDERABLE CONFUSION IN THE EMERGENCY RESPONSE RESULTED FROM LAXED INFORMATION BEING RELEASED BY COUNTY OFFICIALS REGARDING THE HAZARDOUS MATERIALS.

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

1. FAILURE OF TRACK CROSS ELEVATION - L/V FORCES IN SLACK RUN-IN CAUSED WHEEL CLIMB

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

NONE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 4,632,000</td>
<td>$ 0</td>
</tr>
</tbody>
</table>
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #LAX85FR025

REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

-----------------LOCATION-----------------  --TIME--  --DATE--  WEATHER  ------VISIBILITY------
CONGRESS, ARIZONA            1715 HST  08/13/85  CLEAR  DAY/5200 FT

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

........................................ ACCIDENT DESCRIPTION ........................................
ABOUT 5:15 P.M. ON AUGUST 13, 1985, FREIGHT TRAIN EXTRA 5985 WEST, CONSISTING OF 5 LOCOMOTIVE UNITS AND 76 CARS, HAD 16 CARS DERAILED WHILE MOVING AT 39 MPH. THREE OF THE CARS CONTAINED HAZARDOUS MATERIALS. ONE OF THE CARS WENT PARTIALLY OVER Turned DURING THE WRECKAGE REMOVAL PROCESS AND SOME SPILLAGE OCCURRED THROUGH THIS DOME. THERE WERE NO INJURIES OR FIRES AND THERE WAS NO EVACUATION. THE TRAIN WAS OPERATING ON A BRANCH LINE IN ORDER TO DETOUR AROUND A DERAILMENT THAT HAD OCCURRED THE PREVIOUS DAY. THE INVESTIGATION REVEALED THE TRACK GAUGE WAS TIGHT AND THE TRAIN WAS BEING OPERATED AT A SPEED GREATER THAN ALLOWABLE.

---------------------------- PROBABLE CAUSES -------------------------------  ---------------- OTHER FACTORS -------------------------------
1. HUMAN FAILURE - OPERATED TRAIN AT EXCESS SPEED IN SHARP CURVES

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

---------------------------- PROPERTY LOSSES -------------------------------
RAILROAD  NON-RAILROAD
$846,000  $0
REPORTED BY:
ATCHISON TOPEKA AND SANTA FE RY CO.

LOCATION
EDGERTON, KANSAS

--TIME-- --DATE-- WEATHER VISIBILITY
2330 CST 10/31/85 CLOUDY DARK/1200 FT

1 ATCHISON TOPEKA AND SANTA FE RY CO.

TRAIN RAILROAD------CLASS------DIRECTION OPERATING PHASE---TRACK/NO---
1 ATCHISON TOPEKA AND SANTA FE RY CO. FREIGHT UNIT TRAIN EAST EN ROUTE MAIN 001

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


PROBABLE CAUSES

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

CASUALTIES
NONE

PROPERTY LOSSES

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,663,000</td>
<td>$5,000</td>
</tr>
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</table>
REPORTED BY: BALTIMORE & OHIO RR CO.

LOCATION: REPUBLIC, OHIO

TIME: 1530 EDT

DATE: 07/27/85

WEATHER: CLEAR

VISIBILITY: DAY/5000 FT

TRAIN: BALTIMORE & OHIO RR CO.

RAILROAD: FREIGHT

CLASS: WEST

DIRECTION: EN ROUTE

OPERATING PHASE: MAIN 001

TRACK/NO: 001

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

FREIGHT TRAIN EXTRAX 3002 WEST, CONSISTING OF 3 LOCOMOTIVE UNITS AND 114 CARS, HAD THE 61ST THROUGH 84TH CARS DERAIL WHILE MOVING ON TANGENT TRACK ON A DECREASING GRADE AT 50 MPH. THE FIRST CAR TO DERAIL WAS A 55 FOOT BOX CAR LOADED WITH BRICKS. IT WAS IN THE MIDDLE OF 22 TEFL-Level AUTO CARRIER CARS, EACH 94 FEET LONG. THE ENGINEER REPORTED THE LOCOMOTIVE HAD BEEN SURGING JUST PRIOR TO THE DERAILMENT.

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

1. SYSTEM DESIGN INADEQUACY - EXCESSIVE BUMP FORCES FROM LOCOMOTIVE SURGING

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

NONE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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</thead>
<tbody>
<tr>
<td>$1,930,000</td>
<td>$10,000</td>
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</table>
REPORTED BY:  
Baltimore & Ohio RR Co.

<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>Cumberland, Maryland</td>
<td>0537 EDT</td>
<td>09/25/85</td>
<td>Cloudy</td>
<td>Dark/0300 FT</td>
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</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>Baltimore &amp; Ohio RR Co.</td>
<td>Freight</td>
<td>East</td>
<td>En Route</td>
<td>Yard 002</td>
</tr>
<tr>
<td>2</td>
<td>Baltimore &amp; Ohio RR Co.</td>
<td>Freight</td>
<td>West</td>
<td>En Route</td>
<td>Main 001</td>
</tr>
</tbody>
</table>

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

About 5:37 A.M. on September 25, 1985, eastbound freight train no. BA67 had an emergency brake application made when the engineer saw the signal ahead of him turn red unexpectedly. The 36th car in the train derailed and fouled the adjacent westbound main track. At that moment, westbound freight train no. SLT was passing by on the fouled track. The train struck the derailed car and had the 3 lead locomotive units and 2 cars derail. Three cars of no. BA67 were overturned. Investigation of a switch revealed that the switch point lug route was loose, allowing the switch points to move away from the stock rail, which then made the signal display a red aspect indicating an absolute stop.

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

1. Loosely secured switch points
2. Failure of switch points - gave red signal; emergency app., derailed cars

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

<table>
<thead>
<tr>
<th>Fatalities</th>
<th>Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
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</table>

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

<table>
<thead>
<tr>
<th>Railroad</th>
<th>Non-Railroad</th>
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<tbody>
<tr>
<td>$1,079,000</td>
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</tbody>
</table>

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

1. Thrown from seat/position in collision/derailment
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #FTW85F 218

REPORTED BY:
BURLINGTON NORTHERN INC.

-------------LOCATION-------------
CACHE, OKLAHOMA

--TIME-- --DATE-- WEATHER ------VISIBILITY------
1524 CDT 06/20/85 CLEAR DAY/0700 FT

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

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

EAST EN ROUTE MAIN 001

<<<<<<<<<<<<<<<<<<<<<< ACCIDENT DESCRIPTION <<<<<<<<<<<<<<<<<<<<<<<<<<<<


<<<<<<<<<<<<<<<<<<<< PROBABLE CAUSES <<<<<<<<<<<<<<<<<<<<<<

1. FAILURE OF PERSON TO DETECT APPROACHING TRAIN DUE TO INATTENTIVENESS TO DUTIES
2. FAILURE OF MOTORIST TO STOP AT UNPROTECTED GRADE CROSSING DUE TO INATTENTIVENESS TO DUTIES

<<<<<<<<<<<< CASUALTIES <<<<<<<<<<<<<<

FATALITIES INJURIES
PUBLIC ON RR PROPERTY 1 0

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

RAILROAD NON-RAILROAD
$ 293,000 $ 12,000

<<<<<<<<<<<< PROBABLE CAUSES OF CASUALTIES <<<<<<<<<<<

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

--- LOCATION ---
ELMIRA, IDAHO

--- TIMING ---
0730 PDT  07/07/93  CLEAR  DARK/1000 FT

--- TRAIN ---
1  AMTRAK

--- CLASS ---
PASSENGER

--- DIRECTION ---
EAST

--- OPERATING PHASE ---
EN ROUTE

--- TRACK/NO ---
MAIN  001

ACCIDENT DESCRIPTION

AT ABOUT 2:30 A.M. PDT, ON JULY 7, 1993, AMTRAK TRAIN NUMBER 8 (THE EMPIRE BUILDER), WITH 277 PASSENGERS ON BOARD, DERAILED NEAR ELMIRA, IDAHO, WHILE TRAVELING ABOUT 70 MILES PER HOUR. THE TRAIN WAS EASTBOUND ON THE SINGLE MAIN TRACK WHEN IT PASSED OVER A SECTION OF JOINTED RAIL THAT HAD BEEN LAID IN JANUARY 1993, ON A TEMPORARY BASIS DUE TO A DERAILMENT. THE RAILS WERE JOINED TOGETHER BY COMPROMISE JOINT BARS. THE COMPROMISE JOINT BARS ON THE EAST RAIL WERE DISCOVERED BROKEN IN THE WEEEcono, STILL ATTACHED TO THE ENDS OF THE RAILS.

--- PROBABLY CAUSES ---

1. BROKEN COMPROMISE JOINT BAR

CASUALTIES

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

PROPERTY LOSSES

| RAILROAD | $757,000 |
| NON-RAILROAD | $0 |

--- PROBABLY CAUSES OF CASUALTIES ---

1. THROWN FROM SEAT/POSITION IN COLLISION/DERAILMENT
2. STRUCK BY LOOSE FLYING OBJECTS IN TRAIN
3. STRIKING INJURIOUS ENVIRONMENT
REPORTED BY:  
BURLINGTON NORTHERN INC.

---------------------LOCATION---------------------  ---TIME---  ---DATE---  WEATHER  ---VISIBILITY---
BILLINGS, MONTANA  1051 HDT  07/24/85  CLEAR  7/920 FT

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

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

FREIGHT TRAIN EXTRA 7040 EAST, CONSISTING OF 3 LOCOMOTIVE UNITS AND 80 CARS, HAD 21 CARS DERAIL WHILE MOVING 40 MILES PER HOUR. THE TRAIN WAS MOVING THROUGH A FACING POINT SWITCH AT THE TIME OF DERAILMENT. THE SWITCH WENT INTO AN ABANDONED SIDING AND ON THE DAY OF DERAILMENT, THE SWITCH WAS SCHEDULED TO BE REMOVED FROM THE MAIN TRACK. THE SWITCH POINT HAS BEEN SPIKED IN A CLOSED POSITION, BUT THE SPIKES HAD BEEN REMOVED ENOUGH TIMES THAT THE TIE HAD WORN. THE AREA OF THE SPIKE HOLE HAD BECOME POREOUS, ALLOWING THE SWITCH POINTS TO MOVE FREELY FOR ABOUT 1/2 INCH.

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

1. LOOSELY SECURED SWITCH POINTS
2. FAILURE OF CROSSTIES - STOCK RAIL AND SWITCH POINTS WORKED LOOSE

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

1. INADEQUATE PERFORMANCE OF PROCEDURE PRESCRIBED BY FEDERAL TRACK SAFETY STANDARDS 213.135

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

NONE

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

$ 437,000  $ 0
REPORTED BY:
BURLINGTON NORTHERN INC.

-----------LOCATION-----------
WESTMINSTER, COLORADO

--------TIME--------
1950 HDT

--------DATE--------
08/02/85

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

--------VISIBILITY--------
DAWN OR DUSK/0450 FT

TRAIN ---------------RAILROAD---------------
1 BURLINGTON NORTHERN INC. FREIGHT UNIT TRAIN EAST EN ROUTE MAIN 001
2 BURLINGTON NORTHERN INC. FREIGHT WEST EN ROUTE MAIN 001

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

ABOUT 7:50 P.M. ON AUGUST 2, 1985, MIXED FREIGHT TRAIN EXTRA 6311 WEST COLLIDED HEAD-ON WITH UNIT GRAVEL TRAIN EXTRA 6575 EAST NEAR WESTMINSTER, COLORADO. EXTRA 6311 WEST WAS TRAVELING ABOUT 52 MPH, AND EXTRA 6575 EAST WAS TRAVELING ABOUT 48 MPH. THE TRAINS COLLIDED ON THE SINGLE MAIN TRACK DURING DAYLIGHT HOURS IN A 2 DEGREE 41 MINUTES LEFT CURVE IN A WESTERLY DIRECTION ABOUT 50 FEET WEST OF A DUAL-LANE BRIDGE ON U.S. HIGHWAY NUMBER 56. THE BRIDGE WAS DESTROYED BY DERAILED CARS WHICH STRUCK STRUCTURAL SUPPORT MEMBERS AND BY FIRE WHICH ERUPTED FOLLOWING THE COLLISION. THREE CREWMEMBERS OF EXTRA 6311 WEST AND TWO CREWMEMBERS OF EXTRA 6575 EAST WERE KILLED.

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

1. HUMAN FAILURE - SEE NTSB REPORT RAR-85-0 FOR PROBABLE CAUSE

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

FATALITIES INJURIES
EMPLOYEES ON DUTY

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

1. THROWN FROM SEAT/POSITION IN COLLISION/DERAILMENT

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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<tbody>
<tr>
<td>$2,252,000</td>
<td>$1,500,000</td>
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</table>
REPORTED BY:
BURLINGTON NORTHERN INC.

----------------LOCATION----------------
MALAGA, WASHINGTON

--------TIME-----  --------DATE-----  WEATHER  --------VISIBILITY-----
0200 PDT     08/20/85     CLEAR     DARK/O300 F1

TRAIN -----------RAILROAD----------  --------CLASS--------  DIRECTION  -----OPERATING PHASE-----  ---TRACK/NO---
1   BURLINGTON NORTHERN INC.  FREIGHT  EAST  EN ROUTE  MAIN  601

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


------------------------------ PROBABLE CAUSES -------------------------------
1. MISSING TRUCK CENTER PLATE LUBRICATION
2. TIGHT TRUCK CENTER PLATE

------------------------------ OTHER FACTORS -------------------------------
1. DAMAGE TO RAIL FROM EXCESSIVE TRAIN ROLLING FORCES

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

------------------------------ PROPERTY LOSSES -------------------------------
RAILROAD  NON-RAILROAD
$ 1,462,000  $ 0
REPORTED BY:
BURLINGTON NORTHERN INC.

------------------LOCATION------------------ --TIME-- --DATE-- WEATHER ------VISIBILITY------
CROSSPORT, IDAHO 2325 PDT 08/24/85 CLEAR DARK/0300 FT

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

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

ACCIDENT DESCRIPTION


----------------------------------- PROBABLE CAUSES ----------------------------------- OTHER FACTORS -----------------------------------
1. BROKEN BRAKE BEAM
2. FAILURE OF BRAKE RIGGING - BRAKE RIGGING DRAGGING TILTED RAIL IN CURVE

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

RAILROAD NON-RAILROAD
$ 426,000 $ 0
REPORTED BY:
BURLINGTON NORTHERN INC.

------------LOCATION-------------- --TIME-- --DATE-- WEATHER ---------VISIBILITY--------
BOWDON, NORTH DAKOTA 1625 CDT 08/27/85 CLEAR DAY/6000 FT

TRAIN -----------RAILROAD-------------- ------CLASS-------- DIRECTION -----OPERATING PHASE----- ---TRACK/NO---
1 BURLINGTON NORTHERN INC. LOCAL FREIGHT WEST EN ROUTE BRANCH 001

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


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

1. HUMAN FAILURE - RADIOACTIVE LOAD TRUCK DID NOT STOP AT CROSSING
2. FAILURE OF MOTORIST TO STOP AT PROTECTED GRADE CROSSING DUE TO INATTENTIVENESS TO DUTIES

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

FATALITIES INJURIES
PUBLIC ON RR PROPERTY 1 0

---------- PROPERTY LOSSES -------
RAILROAD $120,000
NON-RAILROAD $2,165,000

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

1. STRUCK TRAIN
BRIEF OF RAILROAD ACCIDENT #9686FR001

REPORTED BY:
BURLINGTON NORTHERN INC.

--- LOCATION ---
THAYER, IOWA

--- TIME --- DATE --- WEATHER --- VISIBILITY ---
2055 CDT 10/17/85 CLOUDY DARK/1000 FT

--- CLASS --- DIRECTION --- OPERATING PHASE --- TRACK/NO ---
1 BURLINGTON NORTHERN INC. FREIGHT EAST EN ROUTE MAIN 001
2 AMTRAK PASSENGER WEST EN ROUTE 002

INSTANTANEOUS DESCRIPTION


-- PROBABLE CAUSES --

1. HUMAN FAILURE - TRAIN HANDLING CAUSED SEV'E SLACK RUN-IN
2. IMPROPER TRAIN HANDLING ON UNDULATING GRADE

-- CASUALTIES --

FATALITIES INJURIES
0 11

-- PROPERTY LOSSES --

RAILROAD NON-RAILROAD
$589,000 $ 0

-- PROBABLE CAUSES OF CASUALTIES --

1. BROKEN GLASS
REPORTED BY:
BURLINGTON NORTHERN INC.

-------------------LOCATION-------------------  ---TIME---  ---DATE---  WEATHER  ---VISIBILITY---
LOMBARD, MONTANA  0445 MST  12/14/85  SNOW  DARK/0500 FT

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

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

ABOUT 4:45 A.M. ON DECEMBER 14, 1985, FREIGHT TRAIN EXTRA 7923 WEST, CONSISTING OF 3 LOCOMOTIVE UNITS AND 72 CARS, DERAILED ON THE MAIN TRACK WHILE MOVING AT A RECORDED SPEED OF 26 MPH. THE TRAIN POWER HAD BEEN REDUCED, WHEN THE AUTOMATIC AIR BRAKES APPLIED IN EMERGENCY APPLICATION. A TANK CAR CONTAINING ACETONE WAS DAMAGED AND LEAKAGE OCCURRED FROM THE TOP UNLOADING VALVES. THE ACETONE SPILLED ONTO THE ICE COVERING THE MISSOURI RIVER. THE INVESTIGATION REVEALED A TRANSVERSE CRACK THROUGH THE WELD OF A WELDED RAIL JOINT IN A 6 DEGREE AND 30 MINUTE CURVE. A MAGNETIC-TYPE RAIL DETECTOR HAD TESTED THE RAILS IN THE AREA 16 DAYS BEFORE THE DERAILMENT, BUT FOUND NO DEFECTS.

------------------- PROBABLE CAUSES -------------------
1. FAILURE OF RAIL - MANUFACTURING DEFECT IN FIELD WELD
2. BROKEN RAIL

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

------------------- PROPERTY LOSSES -------------------
RAILROAD  NON-RAILROAD
$ 230,000  $ 0
REPORTED BY:
BURLINGTON NORTHERN INC.

------------LOCATION-----------  --TIME--  --DATE--  WEATHER  -----VISIBILITY------
COLMAR, ILLINOIS  0645 CST  12/15/85  CLEAR  DAWN OR DUSK/2000 FT

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

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

ABOUT 6:45 A.M. ON DECEMBER 15, 1985, FREIGHT TRAIN NUMBER 01-144-14, CONSISTING OF 3 LOCOMOTIVE UNITS AND 91 CARS, HAD
48 CARS DERAILED WHILE MOVING AT ABOUT 60 MPH. THE TRAIN HAD BEEN OPERATING WITHOUT PROBLEMS WHEN AN UNDESIRED EMERGENCY BRAKE
APPLICATION OCCURRED. THE ENGINEER SAW THE TRAIN DERAILED AND PULLED UP BEHIND HIM, SO HE KEPT THE LOCOMOTIVE UNDER POWER TO
MOVE AWAY FROM THE DERAILED CARS. INVESTIGATION LATER REVEALED A BROKEN WHEEL ON THE 7TH CAR. THE WHEEL HAD A 19 INCH PIECE
BROKEN OUT OF IT. MARKS ON THE CROSSTIES INDICATED THE BROKEN WHEEL HAD DRAGGED ON THE GROUND FOR ABOUT 1/2 MILE BEFORE THE
DERAILMENT SITE.

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

1. BROKEN WHEEL
2. FAILURE OF WHEEL - FRACTURE AT AXLE SEAT WENT OUT AND AROUND PLATE

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

NONE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$636,000</td>
<td>$0</td>
</tr>
</tbody>
</table>
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #NYC86FR001

REPORTED BY:
CHESAPEAKE AND OHIO RY CO. (THE)

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

-------------------------- TIME --------------------------
0305 EDT

-------------------------- DATE --------------------------
10/21/85

-------------------------- WEATHER --------------------------
RAIN

-------------------------- VISIBILITY --------------------------
6000 FT

TRAIN

-------------------------- RAILROAD --------------------------
CHESAPEAKE AND OHIO RY CO. (THE)

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

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

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

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

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


1. LOOSELY SECURED SWITCH POINTS

1. INADEQUATE SUPERVISION OF MAINTENANCE OF WAY PROCEDURE

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

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

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

$ 62,000  $ 0
REPORTED BY:
DENVER AND RIO GRANDE WESTERN RR CO.

--------------------LOCATION--------------------- --TIME-- --DATE-- WEATHER ---VISIBILITY-----
SHERIDAN, COLORADO 1515 MDT 09/06/85 CLEAR DAY/5280 FT

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

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


-------------------------------- PROBABLE CAUSES --------------------------------
1. FAILURE OF PERSON TO DETECT APPROACHING TRAIN
2. FAILURE OF PERSON TO VACATE POSITION ON TRACK STRUCTURE DUE TO VEHICLE OPERATOR'S ERROR IN JUDGEMENT
3. HUMAN FAILURE - DRIVER STOPPED TRUCK-TRAILER ON GRADE CROSSING

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

FATALITIES INJURIES
PUBLIC ON RR PROPERTY 0 2

-------------------------------- PROBABLE CAUSES OF CASUALTIES --------------------------------
1. FIRE

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

RAILROAD NON-RAILROAD
$320,000 $1,531,000
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C. 20594  

BRIEF OF RAILROAD ACCIDENT #CHIBSF026  

REPORTED BY:  
GRAND TRUNK WESTERN RR CO.  

------------------LOCATION------------------  
BIRMINGHAM, MICHIGAN  

------------------TIME------------------  
1440 EDT  

------------------DATE------------------  
07/28/85  

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

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

TRAIN ------------------RAILROAD------------------  
1 GRAND TRUNK WESTERN RR CO.  

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

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

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

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

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


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

1. LOOSELY SECURED AIR BRAKE HOSE  
2. FAILURE OF AIR BRAKE HOSE - HOSES STRUCK TRACK, TRAIN PARTED, RAN TOGETHER

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

NONE  

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

RAILROAD $576,000  
NON-RAILROAD $25,000
REPORTED BY:
GRAND TRUNK WESTERN RR CO.

-------------LOCATION-------------
HASNELL'S, INDIANA

----------TIME----------
0720 CDT

--DATE--
08/01/85

WEATHER
CLEAR

-----VISIBILITY-----
DAY/3000 FT

TRAIN ---------------RAILROAD ---------------
1 GRAND TRUNK WESTERN RR CO.

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

DIRECTION
WEST

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

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

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

FREIGHT TRAIN NUMBER 371, CONSISTING OF 2 LOCOMOTIVE UNITS AND 93 CARS, HAD 18 CARS DERAIL While MOVING ABOUT 35 MPH. THE ENGINEER WAS NOT AWARE OF ANY PROBLEMS UNTIL THE TRAIN BRAKES WENT INTO AN EMERGENCY APPLICATION. SOME OF THE DERAILLED CARS CONTAINED NEW AUTOMOBILES, RESULTING IN CONSIDERABLE LADING DAMAGES. INVESTIGATION REVEALED A BURNT OFF AXLE JOURNAL ON THE 21ST CAR.

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

1. OVERT HEATED ROLLER BEARING
2. FAILURE OF ROLLER BEARING - AXLE JOURNAL BURNED OFF

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

NONE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 216,000</td>
<td>$ 237,000</td>
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</tbody>
</table>
REPORTED BY:
GREATER CLEVELAND REGIONAL TRANSIT AUTH.

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

---------- TIME -- DATE -- WEATHER -- VISIBILITY -----
1030 CST 11/04/85 RAIN DAY/2000 FT

TRAIN ----------------- RAILROAD -----------------
GREATER CLEVELAND REGIONAL TRANSIT AUTH.

-------- CLASS ------ DIRECTION ------ OPERATING PHASE ----- --- TRACK/NO ---
PASSENGER TRANSIT WEST EN ROUTE MAIN 002

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

ABOUT 10:30 A.M. ON NOVEMBER 4, 1985, GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY WESTBOUND TRAIN NUMBER 6603, CONSISTING OF 2 TRANSIT CARS, DERAILLED ITS TWO-CAR TRAIN ON A CROSSOVER SWITCH AT E 49TH STREET. THE TRAIN OPERATOR AND TWELVE PASSENGERS WERE TREATED AND RELEASED AT A LOCAL HOSPITAL FOR MINOR INJURIES. NINETY PASSENGERS WERE TRANSPORTED FROM THE TRAIN AND TRANSPORTED TO WESTBOUND TRAIN TO THE TERMINAL. THE TRAIN MOVEMENT OVER THE SWITCH WAS PROTECTED BY AN INTERLOCKING DIAPHRAGM SIGNAL AND THE INSTRUCTIONS WERE BEING CONVEYED BY RADIO FROM THE CONTROL TOWER.

---------------------------- PROBABLE CAUSES -----------------------------
1. FAILURE OF PERSONNEL TO DETECT SIGNAL
2. INATTENTIVENESS TO DUTIES

---------------------------- OTHER FACTORS -----------------------------
1. LACK OF INFORMATION FOR PERFORMING NECESSARY TRAIN OPERATION PROCEDURE

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

----------------------------- PROPERTY LOSSES -----------------------------
RAILROAD NON-RAILROAD
$ 60,000 $ 0
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #ATL85FR013

REPORTED BY:
METRO ATLANTA RAPID TRANSIT AUTHORITY

----------LOCATION----------
ATLANTA, GEORGIA

----------TIME----------
0941 EDT

----------DATE----------
07/19/85

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

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

TRAIN ----------CLASS----------
1 METRO ATLANTA RAPID TRANSIT AUTHORITY
2 METRO ATLANTA RAPID TRANSIT AUTHORITY

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

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

----------TRACK/NO----------
YARD 001

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


---------------- PROBABLE CAUSES ----------------
1. HUMAN FAILURE - TRAIN WAS OPERATED AT EXCESSIVE SPEED
2. ERROR IN JUDGEMENT
3. LACK OF EXPERIENCE

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

<table>
<thead>
<tr>
<th></th>
<th>FATALITIES</th>
<th>INJURIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPLOYEES ON DUTY</td>
<td>0</td>
<td>2</td>
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<tr>
<td>PASSENGERS</td>
<td>0</td>
<td>1</td>
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</table>

----------------- PROBABLE CAUSES OF CASUALTIES -----------------
1. THROWN FROM SEAT/POSITION IN COLLISION/DERAILMENT

----------------- PROPERTY LOSS -----------------

<table>
<thead>
<tr>
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<tr>
<td>$ 125,000</td>
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-------------- OTHER FACTORS --------------
1. LACK OF EXPERIENCE IN PROCEDURE PRESCRIBED BY RR OPERATING RULE #125
REPORTED BY:
MISSOURI PACIFIC RR CO.

LOCATION:
LONGVIEW, TEXAS

TIME:
0500 CST

DATE:
12/20/85

WEATHER:
CLEAR

VISIBILITY:
DARK/1000 FT

TRAIN:
1

CLASS:
MISSOURI PACIFIC RR CO.

DIRECTION:
YARD/SWITCHING

OPERATING PHASE:
WEST

TRACK/NO:
MAKEUP/BREAKUP

INDUSTRIAL 001

ACCIDENT DESCRIPTION


PROBABLE CAUSES

1. HUMAN FAILURE - BRAKEMAN FELL IN LAKE, ENGINEER ATTEMPTED RESCUE
2. INDIVIDUAL ACCEPTED RISKS BEYOND SKILL LEVEL, UNKNOWN TO MANAGEMENT

CASUALTIES

FATALITIES: 0
INJURIES: 2

PROPERTY LOSSES:
NONE

PROBABLE CAUSES OF CASUALTIES

1. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE 40R-L
Reported by: New York City Transit Authority
Brief of Railroad No.: DCA-85-MR-006

Location: Brooklyn, New York
Time: 1011 EDT
Date: 5/15/85
Weather: N/A
Visibility: Tunnel

Train: 1 New York City Transit Authority
Railroad: Transit
Class: Transit
Direction: South
Operating Phase: Enroute
Track No.: 6

Accident Description:
At 10:11 a.m. on May 15, 1985, an eight-car subway train derailed moments after departing the DeKalb Avenue Station, Brooklyn, New York. The train had made a station stop, proceeded out of the station, and then entered a track crossover section. The first car entered the crossover, but the second car derailed at the left-hand switch, continued in a derailed condition for about 120 feet, and struck a concrete-and-steel track separation wall. The third rail was damaged for approximately 40 feet, and the third-rail wooden cover board was forced up under the derailed car. Dense smoke resulted when arcing of the damaged third rail caused a fire in the cover board and the wiring insulation on the car.

Probable Cause: 1. Failure to supervise properly replacing rails and adjusting signals.
2. 
3. 

Other Factors: 1. Failure to supervise an unqualified power maintainer.
2. 

Fatalities: Number: 0 Description: 

Injuries: Number: 7 Description: 
Employees

Passengers (All minor injuries)

Probable Cause of Casualty: 1. Smoke inhalation
2. 

Property Losses: Railroad: $400,000
Non-Railroad: 0
REPORTED BY:
NORFOLK AND WESTERN RY CO.

-----------LOCATION-----------
MENZVILLE, MISSOURI

----------TIME--------- DATE--------- WEATHER -------VISIBILITY------
0240 CST 10/31/85 RAIN DARK/0600 FT

TRAIN --------------RAILROAD---------------
1 NORFOLK AND WESTERN RY CO.
2 NORFOLK AND WESTERN RY CO.

-------CLASS---------- DIRECTION ------OPERATING PHASE-------- ---TRACK/NO---
YARD/SWITCHING EAST MOVEMENT IN YARD YARD 005
FREIGHT WEST EN ROUTE MAIN 001

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

ACCIDENT DESCRIPTION ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~


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

1. HUMAN FAILURE - CREW MOVED 66 CARS WITH NO AIR HOSES HOOKED UP

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

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

railroad
$ 465,000
NON-RAILROAD
$ 0
REPORTED BY:
SE PENNSYLVANIA TRANSPORTATION AUTHORITY

---------- LOCATION ----------
PHILADELPHIA, PENNSYLVANIA

---------- TIME ----------
1753 EST

---------- DATE ----------
12/11/85

---------- WEATHER ----------
RAIN

---------- VISIBILITY ----------
DAWN OR DUSK/600 FT

---------- TRAIN ----------
1 SE PENNSYLVANIA TRANSPORTATION AUTHORITY PASSENGER TRANSIT
2 SE PENNSYLVANIA TRANSPORTATION AUTHORITY PASSENGER TRANSIT

---------- RAILROAD ----------

---------- CLASS ----------

---------- DIRECTION ----------
NORTH
SOUTH

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

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

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

ABOUT 5:53 P.M. ON DECEMBER 11, 1985, NORTHBOUND TROLLEY CAR NUMBER 136, CARRYING AROUND 65 PASSENGERS, DERAILED AT THE NORTH END OF WEST OVERTOWN STATION ON THE NORTHBOUND TRACK UP THE NORTH TOWNS HIGH SPEED LINE, POILING THE SOUTHBOUND TRACK. MOMENTS LATER, SOUTHBOUND TROLLEY CAR NUMBER 180, CARRYING ABOUT 20 PASSENGERS, STRUCK CAR NUMBER 200. ONE CONDUCTOR AND 7 PASSENGERS WERE HOSPITALIZED FOR OBSERVATION. 49 OTHER PASSENGERS WERE TREATED FOR MINOR INJURIES. VANDALS FIRED THE AREA AFTER THE DERAILEMENT. CAR NUMBER 200 DERAILED AFTER STRIKING DEBRIS THAT HAD BEEN PLACED ON THE TRACK. THIS PARTICULAR OPERATION HAS NO RULES RELATIVE TO THE USE OF RADIOS, AND HAS NO RULES RELATIVE TO FLAGGING PROCEDURES.

---------------------------- PROBABLE CAUSES ----------------------------------------
1. VANDALISM: MALICIOUS MISCHIEF
2. HUMAN FAILURE - FIRST OPERATOR DID NOT FLAG SECOND TROLLEY

---------------------------- OTHER FACTORS ----------------------------------------
1. LACK OF INSTRUCTION/SUPERVISION
2. LACK OF SKILL/TRAINING
3. DISTRACTION FROM OTHER EVENTS

---------------------------- CASUALTIES -------------------------------------------
FATALITIES INJURIES

0 1

---------------------------- PROPERTY LOSSES ---------------------------------------
RAILROAD NON-RAILROAD
$ 1,082,000 $ 0

---------------------------- CAUSAL CAUSE OF CASUALTIES ----------------------
DATA NOT AVAILABLE
### Brief of Railroad Accident #84C86F005

**Reported By:** SE Pennsylvania Transportation Authority

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<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Date</th>
<th>Weather</th>
<th>Visibility</th>
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<tbody>
<tr>
<td>Conshohocken, Pennsylvania</td>
<td>0749 EST</td>
<td>12/24/85</td>
<td>Clear</td>
<td>Day/1000 FT</td>
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<table>
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<tr>
<th>Train</th>
<th>Railroad</th>
<th>Class</th>
<th>Direction</th>
<th>Operating Phase</th>
<th>Track/No.</th>
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<tbody>
<tr>
<td>1</td>
<td>SE Pennsylvania Transportation Authority</td>
<td>Passenger Transit</td>
<td>North</td>
<td>En Route</td>
<td>Main 002</td>
</tr>
<tr>
<td>2</td>
<td>SE Pennsylvania Transportation Authority</td>
<td>Passenger Transit</td>
<td>South</td>
<td>En Route</td>
<td>Main 002</td>
</tr>
</tbody>
</table>

### Accident Description

About 7:49 a.m. on December 24, 1985, rail car number 207, making a reverse move, was struck by rail car number 201 just south of the Conshohocken Station of the Red Arrow Line. Four passengers and the operators of the 2 cars reportedly received minor injuries. There were about 20 passengers on car number 201. Car number 207 had just discharged all passengers and was making the reverse move through a crossover. Number 201 was approaching the station, had passed 2 yellow signals, then a red signal was seen by the operator. He applied the brakes while moving about 15 mph, but claimed the car slid until it struck the side of number 207.

### Probable Causes

1. Human failure - railcar speed not in compliance with signal

### Casualties

<table>
<thead>
<tr>
<th></th>
<th>Railroad</th>
<th>Non-Railroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Losses</td>
<td>1</td>
<td>25,000</td>
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</table>
REPORTED BY:
SEABOARD COAST LINE RR

---------------LOCATION--------------- --TIME-- --DATE-- WEATHER ----------VISIBILITY--------
PENSACOLA, FLORIDA 0015 CDT 09/07/85 CLOUDY DARK/0300 FT

TRAIN ------------------RAILROAD--------------------- --------CLASS-------- DIRECTION ----------OPERATING PHASE------- --TRACK/NO---
1 SEABOARD COAST LINE RR FREIGHT NORTH EN ROUTE --MAIN 001

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


------------------------- Probable Causes -------------------------
1. FAILURE OF ROADBED - LEVEE CONSTRUCTED BY CONTRACTOR BROKE
2. DAMAGE FROM CONSTRUCTION ACTIVITY
3. ROADBED WASHOUT

------------------------ Casualties ------------------------
NONF

------- Property Losses -------
Railroad  $548,000  Non-Railroad  0
REPORTED BY:
SEABOARD COAST LINE RR

-------------------LOCATION-------------------
CHARLOTTE, NORTH CAROLINA

---TIME---    ---DATE---    WEATHER    ------VISIBILITY------
20:25 EDT      09/18/85      CLEAR      DARK/1000 FT

TRAIN           --------------RAILROAD-----------
1              SEABOARD COAST LINE RR

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

+++++++++++++++++++++++ ACCIDENT DESCRIPTION ++++++++++++++++++++++++:


------------- PROBABLE CAUSES ---------------
1. BROKEN RAIL
2. DAMAGE TO RAIL FROM TRAIN OPERATIONS

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

-------- PROPERTY LOSSES --------
RAILROAD    NON-RAILROAD
$ 552,000    $  5,000
REPORTED BY:
SEABOARD COAST LINE RR

---LOCATION-------
KEELING, TENNESSEE

---TIME---  --DATE--  WEATHER  ---VISIBILITY-----
0030 CDT  09/29/85  CLEAR  DARK/2000 FT

TRAIN  ----------RAILROAD---------  ---CLASS------  DIRECTION  ---OPERATING PHASE-----  ---TRACK/NO---
1  SEABOARD COAST LINE RR  FREIGHT  NORTH  EN ROUTE  MAIN  001

ACCIDENT DESCRIPTION

ABOUT 12:30 A.M. ON SEPTEMBER 29, 1985, SCHEDULED NORTHBOUND FREIGHT TRAIN, NO. N-530, CONSISTING OF 4 LOCOMOTIVE UNITS AND 107 CARS, HAD 26 CARS DERAIL ON THE MAIN TRACK WHILE MOVING AT 34 MPH. THE INVESTIGATION REVEALED A BROKEN RAIL IN THE VICINITY OF THE DERAILMENT. THE BROKEN RAIL SHOWED EVIDENCE OF AN INTERNAL DEFECT. THE TRAIN PASSED A HOT BOX/DRAGGING EQUIPMENT DETECTOR 15 MILES BEFORE THE DERAILMENT AND NO UNSAFE CONDITIONS ON THE TRAIN WERE RECORDED. THE TRACK WAS LAST INSPECTED 3 DAYS PRIOR TO THE DERAILMENT AND NO DEFECTS OR EXCEPTIONS WERE NOTED OR TAKEN. A RAIL TEST CAR WAS OPERATED 12 DAYS PRIOR TO THE DERAILMENT AND THE INTERNAL DEFECT WAS NOT NOTED.

PROBABLE CAUSES

1. BROKEN RAIL
2. FAILURE OF RAIL - HEARTH-COOL RAIL HAD TRANSVERSE FISSURE

CASUALTIES
NONE

PROPERTY LOSSES
$ 418,000

RAILROAD  NON-RAILROAD  $  0
REPORTED BY:
SEABOARD COAST LINE RR

-------------------------LOCATION-------------------------
LAKE CITY, FLORIDA

------------------------TIME------------------------
1651 EDT

------------------------DATE------------------------
10/12/85

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

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

TRAIN ----------------------RAILROAD----------------------
1 SEABOARD COAST LINE RR

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

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

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

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

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

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


1. LOOSELY SECURED GUARD RAIL CHECK GAGE
2. DAMAGE TO GUARD RAIL CHECK GAGE FROM TRAIN OPERATIONS

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

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
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<tbody>
<tr>
<td>$1,418,000</td>
<td>$ 47,000</td>
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</table>
REPORTED BY:
SEABOARD COAST LINE RR

-------------LOCATION------------- --TIME-- --DATE-- WEATHER --------VISIBILITY------
MARIEETTA, GEORGIA  1100 ESI  11/08/85 CLEAR  DAY/0700 FT

TRAIN -----------------RAILROAD----------------- -------CLASS------- DIRECTION -------OPERATING PHASE----- ---TRACK/NO---
1  SEABOARD COAST LINE RR FREIGHT  NORTH  EN ROUTE  MAIN  001
2  SEABOARD COAST LINE RR FREIGHT UNIT TRAIN SOUTH  EN ROUTE  MAIN  003

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


--------------------------------- PROBABLE CAUSES ------------------------------------- OTHER FACTORS ---------------------------------
1. FAILURE OF PERSONNEL TO DETECT SIGNAL
2. INATTENTIVENESS TO DUTIES

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

FATALITIES  INJURIES

EMPLOYEES ON DUTY  0  1

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

RAILROAD  MGN-RAILROAD

$1,682,000  $1,000

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

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

BRIEF OF RAILROAD ACCIDENT #DEN5F024

REPORTED BY:
SOO LINE RR CO.

------------------------LOCATION------------------------
CUBA, NORTH DAKOTA

------------------------TIME------------------------
0350 CDT

------------------------DATE------------------------
09/30/85

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

------------------------VISIBILITY------------------------
DAWN OR DUSK/2640 FT

TRAIN ------------------------RAILROAD------------------------
1 SOO LINE RR CO.

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

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

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

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


--------------------------------------------- PROBABLE CAUSES ---------------------------------------------
1. BROKEN RAIL TREAD

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

--------------------------------------------- OTHER FACTORS ---------------------------------------------
1. FAILURE OF RAIL TREAD DUE TO NORMAL DETERIORATION/WEAR

--------------------------------------------- PROPERTY LOSSES ---------------------------------------------
RAILROAD NON-RAILROAD
$ 364,000 $ 0
Accident Description: About 5:30 p.m. on July 31, 1985, westbound freight train No. 1-ESTXX-30, consisting of 5 locomotive units and 132 cars, had 38 cars derail while moving about 39 m.p.h. The engineer saw a sun-kink in the track ahead and applied the train brakes. The derailment occurred as the train passed over the sun-kink. The ambient temperature had exceeded 95 degrees F for the 13 previous days.

Probable Cause: 1. Track insufficiently anchored to prevent longitudinal movement during hot weather.

2. Extreme heat.

Other Factors: 1.

2.

Fatalities: Number: Description: Injuries: Number: Description:

Probable Cause of Casualty: 1.

2.

Property Losses:

Railroad: $1,021,000

Non-Railroad: 0
REPORTER:
SOUTHERN PACIFIC TRANSP. CO.

------------LOCATION------------- --TIME-- --DATE-- WEATHER ----------VISIBILITY-------
ALPINE, TEXAS 0225 CDT 08/20/85 CLEAR DARK/0800 FT

TRAIN -------------RAILROAD------------- ------CLASS------ DIRECTION ------OPERATING PHASE----- ---TRACK/NG---
1 SOUTHERN PACIFIC TRANSP. CO. FREIGHT WEST EN ROUTE MAIN 001

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

ABOUT 2:25 A.M. ON AUGUST 20, 1985, FREIGHT TRAIN 01-4FLAT, CONSISTING OF 5 LOCOMOTIVE UNITS AND 101 CARS, STRUCK A PICKUP TRUCK THAT WAS STANDING ON THE TRACK. THE TRAIN SPEED HAD BEEN 48 MPH, BUT AT IMPACT HAD SLOWED TO ABOUT 40 MPH AS A RESULT OF THE ENGINEER PLACING THE TRAIN BRAKES IN EMERGENCY APPLICATION. THE DRIVER WAS ARRESTED FOR PUBLIC INTOXICATION. 20 CARS IN THE TRAIN DERAILED AFTER THE EMERGENCY BRAKE APPLICATION. ONE DERAILED CAR STRUCK A METAL BUILDING NEARBY.

----------------------------- PROBABLE CAUSES -----------------------------
1. USE OF INTOXICANTS
2. HUMAN FAILURE - DRUNK DRIVER GOT TRUCK STUCK ON TRACK

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

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
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<tbody>
<tr>
<td>$ 267,000</td>
<td>$ 14,000</td>
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REPORTED BY:  
SOUTHERN PACIFIC TRANSP. CO.

----------------------------- LOCATION -----------------------------
MCDONNA, TEXAS

------- TIME -------       ----- DATE -----       WEATHER       ------ VISIBILITY ------
2240 CDT  09/14/85       CLOUDY       DARK/0500 FT

TRAIN --------------------- RAILROAD ---------------------
1 SOUTHERN PACIFIC TRANSP. CO.

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

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

ABOUT 10:40 P.M. ON SEPTEMBER 14, 1985, FREIGHT TRAIN EXTRA 7621 EAST, CONSISTING OF 4 LOCOMOTIVE UNITS AND 112 CARS, HAD
28 CARS DETAIL WHILE MOVING AT 41 MPH OVER THE MEDINA RIVER BRIDGE. INCLUDED IN THE 28 DETAILED CARS WERE 21 TANK CARS
CONTAINING SULFURIC ACID. ALL THE TANK CARS BREACHED DURING THE DERAILMENT AND EACH CAR SPILLED ALL OR PART OF ITS LOAD. SOME
OF THE ACID SPILLED INTO THE MEDINA RIVER. PRIOR TO THE DERAILMENT THE CREW OF TRAIN 7621 WAS TOLD BY CROWDWORKERS OF OTHER
TRAINS THAT WERE NET, THAT THEY HAD A CAR IN THEIR TRAIN WITH A SHIFTED LOAD. THE CREW MADE NO ATTEMPT TO SET-OFF THE CAR WITH
THE SHIFTED LOAD AND DARKNESS REDUCED THE VISIBILITY OF THE SHIFTED LOAD FROM THE LOCOMOTIVE UNIT. THE INVESTIGATION REVEALED
HARSH SLACK ACTION OCCURRED PRIOR TO THE DERAILMENT AND THE SHIFTED LOAD STRUCK THE BRIDGE OVER THE MEDINA RIVER. THE TRAIN WAS
TRAVELING 11 MPH IN EXCESS OF ITS MAXIMUM AUTHORIZED SPEED OF 30 MPH.

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

1. HUMAN FAILURE - CREW IGNORED WARNINGS OF SHIFTED LOAD

------------------------------------------------ PROBABLY CAUSES OF CASUALTIES ------------------------------------------------

1. TOXIC REACTION

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

1. DAMAGE TO TIEDOWN EQUIPMENT FROM EXCESSIVE TRAIN BUFF FORCES
2. DAMAGE TO TIEDOWN EQUIPMENT FROM EXCESSIVE TRAIN DRAFT FORCES
3. FAILURE TO PROPERLY PERFORM PROCEDURE PRESCRIBED BY RR OPERATING RULE 829

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

FATALITIES INJURIES

EMPLOYEES ON DUTY 0 2

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

RAILROAD  $1,960,000
NON-RAILROAD $2,350,000
REPORTED BY: SOUTHERN PACIFIC TRANSP. CO.

-------------------------LOCATION------------------------- --TIME-- --DATE-- WEATHER -----VISIBILITY-----
STOVAL, ARIZONA 0700 MST 12/12/85 CLEAR DAWN OR DUSK/6600 FT

TRAIN ------------------------RAILROAD------------------------ ------CLASS------ DIRECTION -----OPERATING PHASE----- ----TRACK/NO-----
1 SOUTHERN PACIFIC TRANSP. CO. FREIGHT WEST EN ROUTE MAIN 001

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

ABOUT 7:00 A.M. ON DECEMBER 12, 1985, FREIGHT TRAIN EXTRA 7476 WEST, CONSISTING OF 3 LOCOMOTIVE UNITS AND 129 CARS, HAD 3 LOCOMOTIVE UNITS AND 31 CARS DERAIL ON THE MAIN TRACK WHILE MOVING AT 45 MPH. THE HEAD END CREW FELT THE LOCOMOTIVE UNIT MOVE OVER AN UNKNOWN OBJECT AND HEARD A LOUD THUMP. THE ENGINEER LOOKED IN THE SIDE MIRROR AND SAW THE SECOND LOCOMOTIVE UNIT JUMP AND THE TRAIN JERKED. THE TRAIN POWER WAS REDUCED AND IMMEDIATELY AN UNPLANNED AIR-BRACE APPLICATION OCCURRED. THE INVESTIGATION REVEALED A COMPLETE TRANSVERSE SEPARATION OF THE RAIL IN THE PLANT WELDED AREA OF THE WELDED RAIL. A RAIL DETECTOR TEST CAR WAS LAST OPERATED OVER THE AREA 9 MONTHS PRIOR TO THE RAIL FAILURE, BUT FOUND NO DEFECTS AT THAT TIME.

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

1. FAILURF OF RAIL - DUE TO DEFECTIVE PLANT WELD
2. BROKEN RAIL

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

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

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<td>$1,272,000</td>
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</table>
Reported by: St Louis Southwestern Railway Co.  
Brief of Railroad No.: DCA-85-M-R-007  

<table>
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<th>Date:</th>
<th>Weather:</th>
<th>Visibility:</th>
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<tr>
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<td>6/9/85</td>
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<table>
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<tr>
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<th>Railroad:</th>
<th>Class:</th>
<th>Direction:</th>
<th>Operating Phase:</th>
<th>Track No.:</th>
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<tbody>
<tr>
<td>1</td>
<td>St. Louis Southwestern Railway Co.</td>
<td>Freight</td>
<td>North</td>
<td>Enroute</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
<td></td>
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</table>

**Accident Description:** About 1:33 p.m., c.d.t. on June 9, 1985, freight train Extra 4835 North derailed while passing over a ballast-deck pile trestle located about 3.3 miles southwest of Pine Bluff, Arkansas. Eighteen of the 42 derailed cars were loaded tank cars, and 14 of these cars contained regulated hazardous or toxic chemical commodities; 4 others contained non-regulated flammable petroleum and liquid plastics products. Fire broke out in the wreckage, and smoke and toxic gases were released into the atmosphere. Two tank cars exploded. More than 2,800 persons were evacuated from within a 1-mile radius of the derailment site.

**Probable Cause:**

1. Failure to properly destress and anchor track to retard longitudinal movement.
2. Excessive speed and heavy braking on a downgrade compounded the stresses imposed on the track by hot weather.
3. 

**Other Factors:**

1. 
2. 

**Fatalities:**

<table>
<thead>
<tr>
<th>Number:</th>
<th>Description:</th>
<th>Injuries:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Property Losses:**

Railroad: $1,388,000
Non-Railroad: 0
REPORTED BY: TRANSPORT OF NEW JERSEY.

----------LOCATION---------- --TIME-- --DATE-- WEATHER --VISIBILITY-----
MOMBKEN, NEW JERSEY 0820 EST 12/30/85 CLEAR DAY/4000 FT

TRAIN -----------------RAILROAD-------------- -------CLASS------- DIRECTION ----OPERATING PHASE----- --TRACK/NO-----
1 TRANSPORT OF NEW JERSEY PASSENGER COMMUTER EAST EN ROUTE MAIN 014


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


--------------- PROBABLE CAUSES ------------------ OTHER FACTORS ------------------

1. HUMAN FAILURE - WHEEL-TESTING GREASE WAS NOT CLEANED OFF RAILS

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

NONE

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20,000</td>
<td>$0</td>
</tr>
</tbody>
</table>
REPORTED BY:
UNION PACIFIC RR

--------------LOCATION--------------  --TIME--  --DATE--  WEATHER  VISIBILITY
BOLSON, WYOMING  1555 MDT  07/05/95  CLEAR  DAY/3000 FT

TRAIN  ---------------RAILROAD--------------  CLASS  DIRECTION  OPERATING PHASE  TRACK/NO
1  UNION PACIFIC RR  FREIGHT  EAST  EN ROUTE  MAIN  001

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

FREIGHT TRAIN RV-03, CONSISTING OF 4 LOCOMOTIVE UNITS AND 126 CARS, HAD 26 CARS DERAILED WHILE MOVING 60 MPH. THE DERAILED CARS WERE THE 103RD THROUGH 128TH CARS. TWO TANK CARS ENDED UP IN COOPER'S LAKE, NEXT TO THE TRACKS, BUT NO HAZARDOUS MATERIALS WERE SPILLED. INVESTIGATION REVEALED A LOOSE WHEEL (IN THE 103RD CAR) WHICH HAD SLID INBOARD ON THE AXLE, ALLOWING THE WHEEL TO DROP INTO THE TRACK GAGE. LABORATORY TESTS INDICATED EXTREME FORCES PUSHED THE WHEEL IN ON THE AXLE.

************************* PROBABLE CAUSES *************************
1. FAILURE OF WHEEL - LOOSE WHEEL SHOVED RAILS APART

************************* OTHER FACTORS *************************
1. DAMAGE TO WHEEL FROM TRAIN OPERATIONS

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

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

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NON-RAILROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,082,000</td>
<td>$0</td>
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</tbody>
</table>
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

BRIEF OF RAILROAD ACCIDENT #DEN85FK023

REPORTED BY:
UNION PACIFIC RR

------------------------LOCATION------------------------
WALLULA, WASHINGTON

--TIME-- --DATE-- WEATHER --------VISIBILITY--------
061C PDT 09/11/85 CLOUDY DAWN OR DUSK/1500 FT

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

1 UNION PACIFIC RR

-------CLASS------- DIRECTION -------OPERATING PHASE-------
FREIGHT WEST EN ROUTE

---TRACK/NO---
MAIN 001

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


-------------------------------- PROBABLE CAUSES --------------------------------
1. DAMAGE TO ROLLER BEARING FROM LOADS EXCEEDING CAPABILITY
2. FAILURE OF ROLLER BEARING - CARLOAD OF SCRAP PAPER WAS 37 TONS OVERLOADED

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

-------------------------------- PROPERTY LOSSES --------------------------------
1. OVER HEATED ROLLER BEARING

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>NO.4-RAILROAD</th>
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</thead>
<tbody>
<tr>
<td>$763,000</td>
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</tbody>
</table>
## Brief of Railroad Accident: #LAX86FR002

**Reported by:**
Union Pacific RR

**Location:**
Crooks, Oregon

**Time:**
0950 MST

**Date:**
11/23/85

**Weather:**
Clear

**Visibility:**
Day/0500 FT

**Train:**
Union Pacific RR

**Class:**
Freight Unit Train

**Direction:**
West

**Operating Phase:**
En Route

**Track/No.:**
Main 001

### Accident Description

About 9:50 A.M. on November 23, 1985, Union Pacific train number 02/7CTX-20, consisting of 4 locomotive units and 75 cars, had 58 cars derail while moving about 57 mph through an 8 degree curve on a 1 1/2 percent descending grade. There is a speed restriction of 25 mph at that location. The engineer knew the train was going too fast, but did not put the brakes in emergency application because he was afraid the locomotive would derail in the curve. When the train first started down the grade, he did not make an attempt to slow the train at that time. He had been twice disciplined for violation of operating rules. The conductor had been suspended previously for a rule violation that resulted in a derailment.

### Probable Causes

1. **Human Failure** - Ran train 57 mph in 25 mph, 8-degree curve

### Other Factors

1. Failure to properly perform procedure prescribed by RR operating rule #8046

### Casualties

None

### Property Losses

<table>
<thead>
<tr>
<th>Railroad</th>
<th>Non-Railroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,032,000</td>
<td>$0</td>
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