

**NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF RAILROAD, PIPELINE &
HAZARDOUS MATERIALS INVESTIGATIONS
WASHINGTON, D. C. 20594**

DCA-02-MR-002
TRAIN DERAILMENT and
HAZARDOUS MATERIAL RELEASE on the
CANADIAN PACIFIC RAILWAY in
MINOT, NORTH DAKOTA
January 18, 2002

RAILROAD SIGNAL GROUP - FACTUAL REPORT

I. GENERAL

Location: Minot, North Dakota
Date: January 18, 2002
Carrier: Canadian Pacific Railway (CP)
Train: Eastbound 292-16
NTSB No.: DCA-02-MR-002

II. SIGNAL GROUP

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III. SYNOPSIS

At approximately 1:40 a.m., Central Standard Time, January 18, 2002, Canadian Pacific Railway freight train 292-16 with two locomotives and 112 cars derailed 31 cars near Minot, North Dakota. Several tank cars carrying anhydrous ammonia were compromised and a vapor plume covered the derailment site. One local resident was fatally injured. The conductor was taken to the hospital for observation, after complaining of breathing difficulties. Approximately 100 residents were evacuated and six were admitted to the hospital also with breathing issues.

The operating crew stated that while operating near 40 mph they had felt a rough spot, attempted to slow the train and the derailment occurred. Once assessing the situation, they removed the two locomotives from the rest of the train and departed the immediate area towards Minot.

The National Weather Service in Bismarck, ND reported the weather conditions for Minot, on the day of the derailment as -5° Fahrenheit with winds from the southwest at 5 knots and clear skies at 12:54 a.m. Conditions at 1:54 a.m. were reported as -6° Fahrenheit with winds at 6 knots from the southwest and scattered clouds at 1,800 feet.

IV. DETAILS OF THE INVESTIGATION

A. Railroad Wayside Data Recorders:

Train CP 292-16 was traveling east on the Portal Subdivision when the derailment occurred near milepost (MP) 471.4. In the vicinity of the accident, hot box detectors are located at MP 511.7, MP 481.4, MP 460.1 and MP 436.6. Data for the accident train was downloaded from the last two hot box detectors at MP 511.7 and MP 481.4 prior to the derailment. In addition, data for previous train movements from both directions was downloaded.

Table 1. Previous trains through derailment area, from both directions.

Location	Time	Date	Direction	Condition
MP 511.7	22:30	1-17-02	East	No Defects
	18:30	1-17-02	East	No Defects
	00:13	1-18-02	Accident Train	No Defects
MP 481.4	23:46	1-17-02	East	No Defects
	19:52	1-17-02	East	No Defects
	01:16	1-18-02	Accident Train	No Defects
MP 460.1	18:43	1-17-02	West	No Defects
	22:28	1-17-02	West	No Defects
MP 436.6	17:14	1-17-02	West	No Defects
	18:50	1-17-02	West	No Defects

The data from the hot box detectors at MP 481.4 and MP 460.1 contained information for train movements since January 13, 2002.

Table 2. Previous alarms, east and west of derailment area.

Location	Time	Date	Direction	Alarm
MP 481.4	01:07	1-17-02	East	Absolute alarm; Train stopped
	05:46	1-17-02	East	Absolute alarm; Train stopped
MP 460.1	10:27	1-14-02	West	Cold Train

At MP 509.0, an automatic equipment identification (AEI) reader is located. The AEI reader recorded train 292-16 traveling past this site at 1:19 a.m., on the day of the accident. The AEI reader log reported train 292-16 was traveling east at approximately 36 mph with 2 locomotives and 112 cars.

The Canadian Pacific has no wheel impact load detector (WILD) sites located on the Portal Subdivision. Train 292-16 traveled past the WILD site at Mortlach MP 30.9 on the Swift Current Subdivision in Canada. The WILD site at Mortlach is approximately 185.1 miles prior to entering the U.S. on the Portal Subdivision. The train traveled an additional 262.7 miles to the derailment site. The WILD site data logs did not indicate any defects associated with train 292-16.

B. Additional Information:

On January 18, 2002, train 654-07, which originated in Canada, departed Moose Jaw traveling eastbound. The train went through the derailment area at approximately 12:01 a.m. The train continued onto the Paynesville Subdivision and traveled past a WILD site at MP 93.6 at approximately 7:47 p.m.

The WILD site alarm was triggered as the 89th car on train 654-07 went by the detector. The detector data log indicates that car number NAHX 800807 registered 130.4 kips on the R-2 wheel (from the B-end of the car) on the 3rd axle as it traveled at 31.1 mph. The wheel position corresponded with the south rail at that location.

The train continued on, but was restricted to a maximum speed of 25 mph. The car was set out at the house track at Paynesville, MP 82.5.