

CN derailment probe focuses on problem with car's wheel-axle

Transportation Safety Board certain controversial DOT-111 tank cars were carrying crude oil on train

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CN Rail's preliminary investigation points to the failure of a wheel-axle combination in a car as the trigger for a derailment that led to a huge fire near Plaster Rock on Tuesday, according to a spokesman for the railway.

Smoke and steam were still coming from the accident scene in a rural setting on Thursday and a Transportation Safety Board (TSB) official said it was not known how long the fire would continue to burn.

While the fire continues to burn, New Brunswick's Emergency Measures Organization (EMO) issued a statement Thursday afternoon saying the situation is considered stable.

CN Rail spokesman Jim Feeny told CBC's *Information Morning* in Fredericton that CN's preliminary investigation indicates there was a sudden failure of a wheel, or perhaps a wheel-axle combination on Car 13, which was the first car that derailed toward the front of the 122-car train.

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"That then led to application of the emergency braking system, which is exactly what it's designed to do," said Feeny. "If there is a mishap of this sort on a train, the emergency brakes are designed to apply and then bring the train to a stop."

"However, as that was happening, the further 16 cars and locomotive combination [derailment] occurred towards the end of the train. That's where we had the fire."

Among the cars that derailed at the end of the train were five cars carrying crude oil and four cars filled with liquefied petroleum gas.

Each tank car can carry between 550 and 650 barrels of oil, according to the Rail Association of Canada.

Number of cars in derailment revised

At a news conference later Thursday, TSB investigator Guy Laporte revised the number of cars involved in the derailment upward, to 19 cars and a remote locomotive.

The continuing fire has prevented Laporte from getting a close look at the derailed cars at the rear of the train.

However, Laporte was able to observe a cracked wheel on the car toward the front of the train.

"The axle is not broken — I saw that yesterday," said LaPorte. "The wheel just got inside the rail and dropped to the ground."

A broken rail was also discovered, he said.

DOT-111 tank cars involved in Lac-Mégantic

Feeny confirmed some of the tank cars on the train were the DOT-111 classification, or its Canadian equivalent, but could not say if they were among the derailed cars.

DOT-111 tank cars, called CTC-111A in Canada, were involved in the Lac-Mégantic, Que., derailment in Quebec in July that killed 47 people.

As early as 1994, regulators at the TSB wrote that this type of tanker car had a flawed design and that they have a "high incidence of tank integrity failure" during accidents.

"TSB investigations identified in 1996, 1997, 2001 and 2006 this type of car as susceptible to puncture and more likely to release content when involved in an accident," a report six years ago stated.

Laporte said he was confident some of the derailed cars in Plaster Rock involved the DOT-111 model.

"I'm pretty sure of that," he said. "The crude oil is transported by DOT-111."

Brigham McCown, a train safety expert based in Tyler, Texas, said DOT-111 tank cars have been in existence since 1964. More than 300,000 have been produced, he said.

The estimated 14,000 produced since 2011 meet a higher safety standard, said McCown. They are designed to be puncture resistant, with tougher side walls, tougher end caps and coverings on top to prevent the valves from coming off during a rollover.

"The idea is, even if there is an incident, what can be done to reduce the magnitude of that incident? So if you can keep the crude oil instead the tank car, then it's less likely to catch fire," McCown said.

Asked whether there are safer options, he cited to DOT-112 and DOT-114 models.

"We can go back to the drawing board, as well," he said. "Bumpers have changed, air bags have changed, cars have changed dramatically since 1964 and you know there are better ways and there are better specifications that we can come to."

"But these tank cars cost a lot of money. That gets paid by the shipper and ultimately the consumer, so they can't be taken out of service overnight."

Feeny said there have been derailments in the past involving the failure of a train wheel, or wheel-axle combination.

Investigators will now need to determine the sequence of events, he said.

"What happened first? Was there a problem with the wheel? Did that lead to a problem with the axle?" he said.

"We have a preliminary indications. What we don't have is a definitive analysis of the chain of events yet. That will take some time."

The TSB is in charge of the investigation.

Air and ground assessments of the area are expected to continue.

The CN freight train jumped the tracks and caught fire late Tuesday near the village of Plaster Rock.

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The train was headed east from Toronto to Moncton, N.B.

The crude oil was from Western Canada, said Claude Mongeau, president and CEO of CN Rail, at a news conference in Plaster Rock on Wednesday.

The crude oil and propane were destined for the Irving Oil refinery in Saint John, he said.

It is not known if the crude oil was heavy crude, or the potentially more explosive Bakken crude, which comes from North Dakota and southern Saskatchewan and Manitoba.

Bakken crude was involved in the massive derailment and explosion in Lac-Mégantic. That shipment was also destined for the Saint John refinery.

Aerial images from the scene near Plaster Rock show a jumble of burning cars strewn across the tracks in a wooded area.

Residents anxious to return home

No one was injured, but about 150 people living in nearby homes were told to leave soon after the train derailed.

One of the residents, Violet Deleavy, said they are looking after one another.

"When something like this happens, everybody bands together, works together, helps each other," she said.

The Village of Plaster Rock organized a private meeting for people who were forced from their homes. It was held at the Lions Club on Thursday afternoon. Emergency Measures Organization officials and Red Cross representatives also attended.

It is not known when the residents will be allowed to return home, but it appears certain it won't be Thursday.

The village said those with wood heat could be escorted to their residences by Emergency Measures by officials Thursday between 8 p.m. and 10 p.m. to check on the state of their homes.

Some of the residents lined up at police blockades on Thursday morning, anxious to get back to their homes.

"Nobody has slept well since this happened," said Richard Levesque, who was among them. "It's quite upsetting and nerve-wracking. You know, the damage is being done, the contamination to our property especially."

Some residents are concerned about the possibility of their wells being contaminated by oil on the ground, CBC's Melissa Oakley reported from the scene.

So far, there have been reports of only one home with oil in the front yard, she said.

Wells within a two-kilometre radius of the wreckage will be tested in the near future and again in the spring, once the ground thaws, said Oakley.

About 50 residences are in the evacuation zone, which extends for a two-kilometre radius around the derailment site in a largely forested area of rural northwestern New Brunswick.

EMO said a no-fly-over alert remains in place over the evacuation zone.

Plaster Rock Mayor Alexis Fenner said she had no immediate questions to ask of CN or emergency response officials.

"There are all sort of questions that will arise, but until we get all the facts and everything ... I have to hold back and wait for all the information to come in," said Fenner.

The train crash has also caused delays of goods being shipped by rail into parts of the Maritimes. Canadian Tire said rerouting is causing delays of between eight and 12 hours for shipments into and out of one of the company's major distribution ports in Halifax.

"CN is currently using a detour route and we are continuing to use this channel for all shipments for our stores, expect for time-sensitive loads, such as storm-related products. This will be the ongoing strategy until service gets back to normal," said Canadian Tire spokesperson Teresa Cugliari.

54 derailments in N.B. since 2003

Fifty-four trains carrying dangerous goods have derailed across New Brunswick over the past decade, CBC News has learned.

The 2003-12 figures come from a TSB database of reported rail occurrences obtained by CBC News as part of an ongoing investigation into rail safety.

Nearly a quarter of those reported derailments involving dangerous goods cars — 13 in total — happened in what's known as the Napadogan subdivision, an area that includes the tracks where yesterday's derailment took place. However, the subdivision hasn't had a dangerous goods car derailment for the past five years, since 2007.

Across New Brunswick and on the Napadogan subdivision train lines, there has been a decrease in the number of derailments and occurrences in general over the past decade.

At least two other derailments have happened near Plaster Rock, one in 2004 and another in 2005. Both involved CN Rail cars carrying dangerous goods. One involved petroleum gases, while in the other case the product type is not stated.