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## **Rail Safety**

Oversight and Expertise

# Derailment at Lac-Mégantic, Quebec

Presentation to the Railroad Safety  
Advisory Committee  
August 29, 2013



# PURPOSE

Provide an overview of the derailment at Lac-Mégantic, Quebec

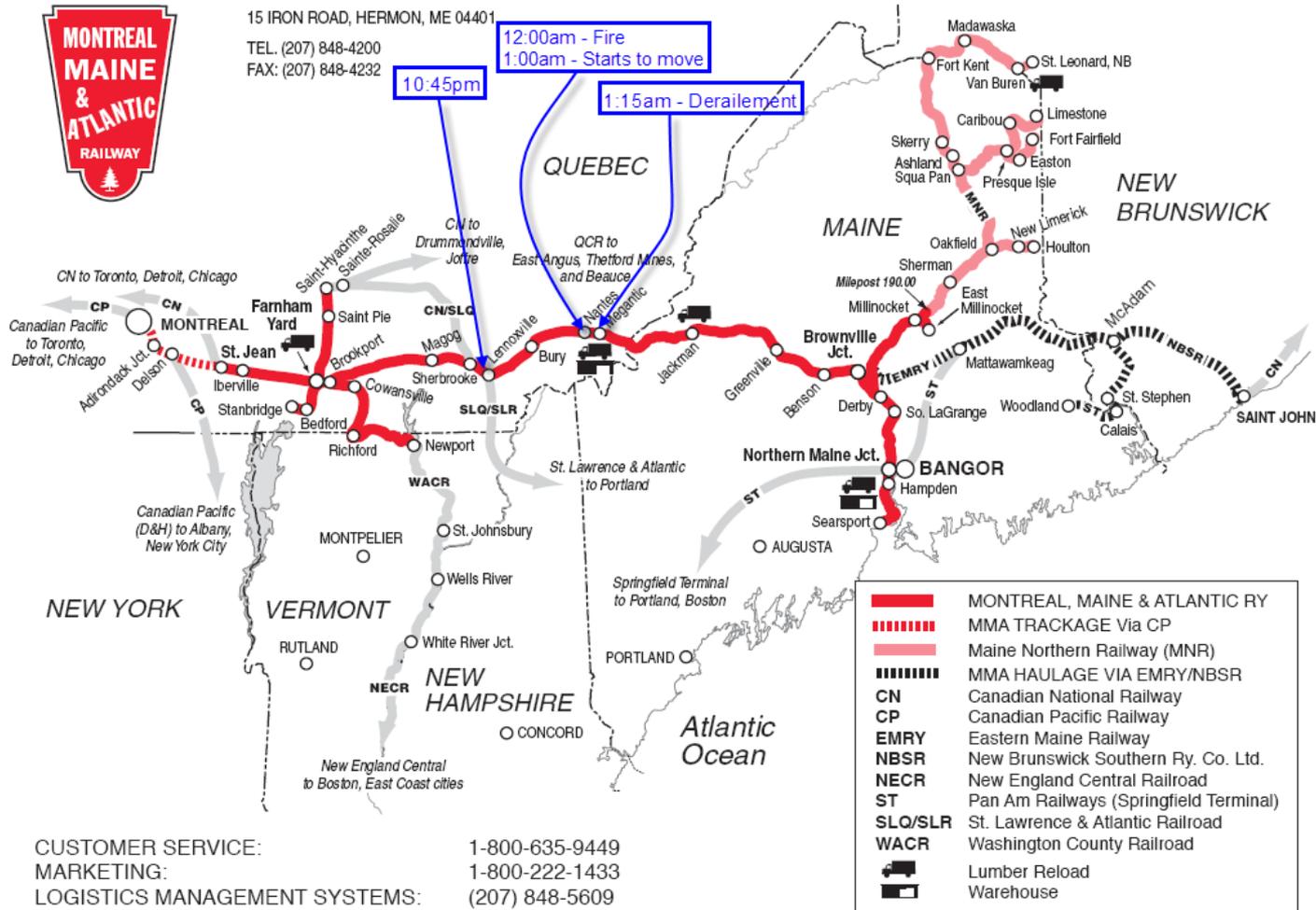
- Montreal, Maine & Atlantic
- Events leading up to the accident
- The derailment
- Aftermath
- Investigations
- Inspections
- MMA Stats and Certificate of Fitness
- Emergency Directive and Section 19 Order
- What's next?

# Montreal, Main & Atlantic

- The **Montreal, Maine & Atlantic Railway**, began operation in January of 2003 and owns 510 route miles of track in Maine, Vermont and Quebec and employs approximately 170 people (75 in Canada).
- The MMA operates about 15 trains daily with a fleet of 26 locomotives.
- MMA connects with seven Class I, regional and local railroads and provides rail link between Northern Maine, Saint John, New Brunswick and Montreal. In addition, MMA offers access to port facilities on the Atlantic at Saint John, New Brunswick and Searsport, Maine.
- Since the Lac Megantic derailment, MMA had laid-off 55 employees in Canada.
- On August 7, 2013, MM&A filed for Bankruptcy in Canada and the U.S.

# TRAJECTORY

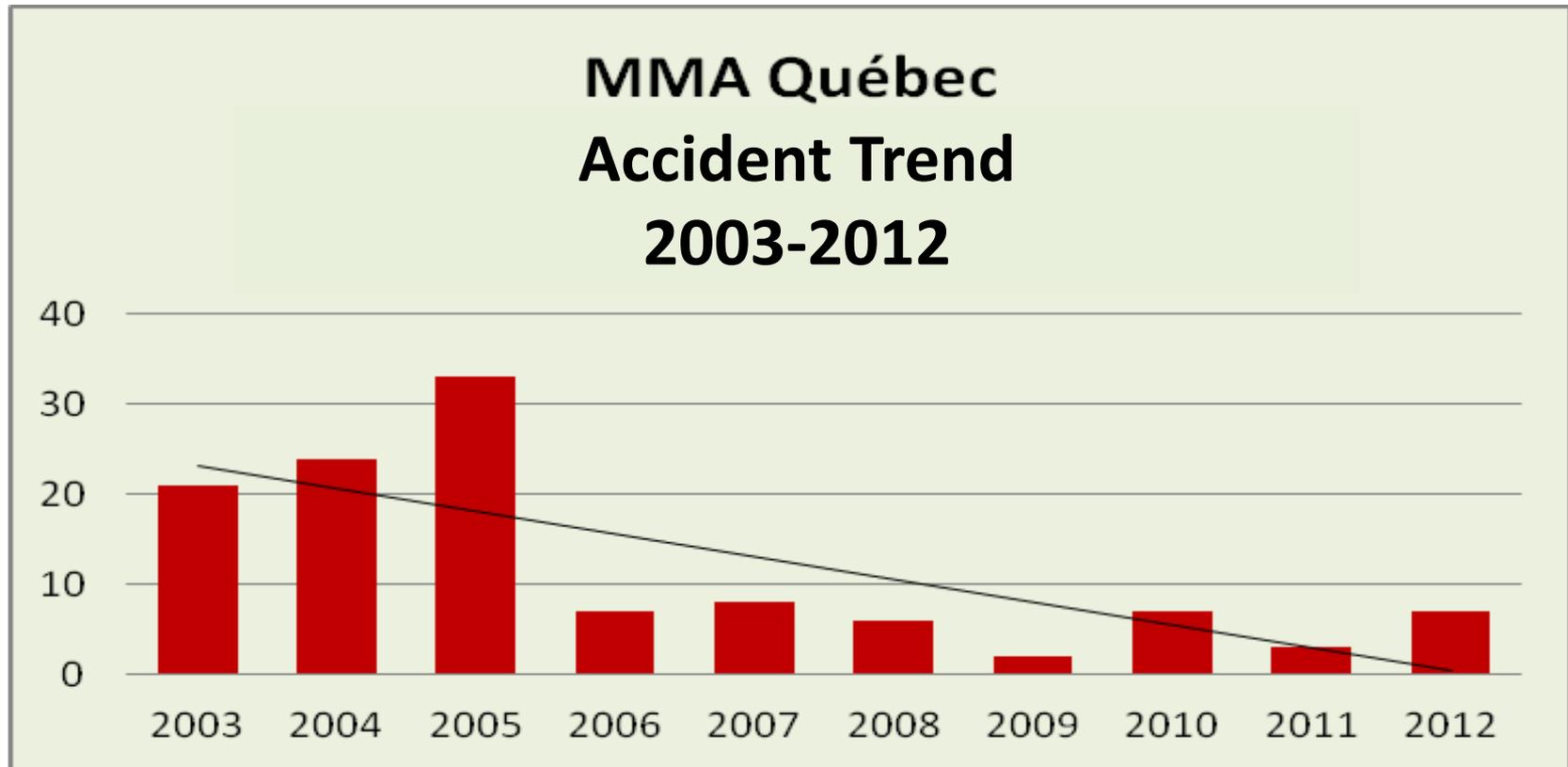
## MONTREAL, MAINE & ATLANTIC RAILWAY LTD.



# JULY 5, 2013

<b>10:45 p.m.</b>	Montreal Maine & Atlantic (MMA) freight train MMA 2 was proceeding eastward on the MMA Sherbrooke Subdivision, enroute from Montreal (QC) towards Saint John (NB).	<ul style="list-style-type: none"><li>- 4701 feet and 10,287 tons</li><li>- 5 head-end locomotives</li><li>- VB car with locator for SPTO</li><li>- 1 loaded box car used as a buffer</li><li>- 72 non-pressure tank cars loaded with petroleum crude oil (Class 3, UN 1267)</li></ul>
<b>11:00 p.m.</b>	The train stopped at the designated MMA crew change point at Mile 7.40 near Nantes, Quebec. The single operator secured the train and departed for the evening.	<ul style="list-style-type: none"><li>- unlocked lead locomotive</li><li>- train unattended on mainline track descending grade of 1.2%</li><li>- unclear number of handbrakes</li></ul>
<b>11:50 p.m.</b>	A local resident reported a fire on the lead locomotive (MMA 5017) to the 911 emergency call centre. The local fire department responded along with another MMA employee.	
<b>12:00 a.m.</b>	Emergency shutdown procedures were initiated on the lead locomotive and the fire was extinguished. The MMA employee and the fire department leave.	<ul style="list-style-type: none"><li>- train unattended</li></ul>

# More MMA Stats



- Substantial drop in accidents and incidents reported to the TSB in 2006 and remained until 2012.

# JULY 6 - DERAILMENT

**Shortly  
before  
1:00 a.m.**

The train starts to move and gathered speed as it rolled uncontrolled down the descending grade into the town of Lac-Mégantic, Quebec.

- 7.4 miles southeast of Nantes
- Travelling well over authorized speed

**1:15 a.m.**

The train derails near the centre of Lac-Mégantic. The locomotives separated from the train and came to a stop about ½ mile east of the derailment.

- box car (buffer) and 63 tank cars

**2:00 a.m.**

An engineer uses a track mobile to pull the nine cars at the back away from the derailment site.

# AFTERMATH

- Several derailed tank cars released product resulting in multiple explosions and fires causing 47 fatalities, extensive damage to the town centre and precipitated the evacuation of about 2000 people from the surrounding area.
- 125 businesses were affected and more than 675 people lost their jobs.
- A certain quantity of the spilled oil found its way into the Chaudière river.



SSC MSS 6000 Mission: TC950-2013-067 2013-07-10 14:10:19 N45°35.38' W070°53.57' 192° 2703 ft 152.4 kts SCAM: Port Image: 0024











# INVESTIGATIONS

- The **Transportation Safety Board (TSB)** of Canada is conducting a full investigation to determine the cause of the incident and contributing factors.
- The **TSB** has completed its examination and documentation of the wreckage scene and gathered the data they need from the accident site. Now that the field phase is winding down, they are moving into the examination and analysis phase.
- **Transport Canada** obtained a warrant and inspectors continue to conduct an investigation to determine if rules and regulations under the *Railway Safety Act* and the *Transportation of Dangerous Goods Act* have been followed.
- **Environment Canada** is investigating for possible infractions under its relevant and legislation and regulations.
- The **Sûreté du Québec** is conducting a criminal investigation.

# INSPECTIONS

- Since the incident, all MMA rail lines in Quebec were inspected by Transport Canada inspectors using one of the department's track assessment vehicles and a track geometry car supplied by the Federal Railroad Administration. Some deficiencies were found and immediate mitigation measures have been taken.
- On July 8, 2013, Transport Canada conducted an inspection at the Vachon Station and issued a Notice and Order under section 31 of the *Railway Safety Act* ordering that MMA not allow their employees to leave equipment unattended in sidings or main tracks without having been properly secured.
- Following complaints received by the Municipality of Eastman residents, Transport Canada conducted an inspection of a railway bridge in the Lac-Mégantic vicinity and on July 24, 2013 issued a Notice under section 31 of the *Railway Safety Act* suggesting improvements to the condition of the bridge.

# MMA's Certificate of Fitness

- On August 13, the Canadian Transportation Agency suspended MMA and MMAC's Certificate of Fitness, finding that the railways have not demonstrated that their third party liability insurance is adequate for ongoing operations.
- MMA and MMAC had to cease their operations in Canada effective August 20.
- On August 23, the CTA gave MMA and MMAC an extension until October 1.
- This fall, the CTA will consult and review requirements for the issuance of Certificates of Fitness.

# Emergency Directive

- In response to two Rail Safety Advisories from the TSB, on July 23, 2013, Transport Canada issued an Emergency Directive pursuant to section 33 of the *Railway Safety Act* (RSA) to all rail operators to further enhance the safety of existing railway operations and the security of railway transportation.
- The Emergency Directive requires all rail operators to file their Special Instructions regarding the application of hand brakes with Transport Canada.
- The emergency directive will remain in effect until December 31, 2013.
- Transport Canada will be carrying out additional inspections to monitor compliance to the emergency directive.

# Emergency Directive Content

Effective immediately, the emergency directive requires all rail operators to:

- Ensure that no locomotive attached to one or more loaded tank cars transporting dangerous goods is operated with fewer than two qualified persons on a main track or sidings;
- Ensure that no locomotive attached to one or more loaded tank cars transporting dangerous goods is left unattended on a main track;
- Ensure, within five days of the issuance of the directive, that all unattended controlling locomotives on a main track and sidings are protected from unauthorized entry into the cab;

# Emergency Directive Content (cont'd)

- Ensure the directional controls, commonly known as reversers, are removed from any unattended locomotives, preventing them from moving forward or backward, on a main track or sidings;
- Ensure that their company's special instructions on hand brakes are applied to any locomotive attached to one or more cars that is left unattended for more than one hour on a main track or sidings;
- Ensure that, in addition to complying with their company's special instructions on hand brakes referred to in the item immediately above, the automatic brake is set in full service position and the independent brake is fully applied for any locomotive attached to one or more cars that are left unattended for one hour or less on a main track or sidings.

# Section 19 Order

- Transport Canada issued a Ministerial Order under subsection 19(1) of the *Railway Safety Act* that requires all federally-regulated railway companies to formulate rules respecting the:
  - securement of locomotives;
  - prevention of uncontrolled movements; and
  - crew size requirements for certain situations.
- The railways have until November 20, 2013 to formulate the rule and submit them to TC.

# WHAT'S NEXT?

- Reviewing special instructions for handbrakes.
- Railway Association of Canada and railway companies to develop rules under section 19 Order.
- Ministerial consultations on transportation of dangerous goods by rail through communities.
- Possible requirement for further consultations with municipalities for future regulatory development.