



Operational Risk Management: Building A Strategy To Prepare For A Crisis

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Session Overview

Session Overview

- Key learnings from a case study (pre-read material)
- Linking the key learnings in building a strategy
- How Maple Leaf Foods built a strategy to prepare for a crisis.
- Strategy on how to do this.
- Operational Risk Management System

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Background

- Maple Leaf Foods developed an "Operational Risk Management" program in March 2015.
- The program was initiated by a crisis.
- Maple Leaf Foods has analyzed case studies (both internal and external to MLF).
- Today's presentation includes the case study of the Lac-Mégantic train derailment on July 5, 2013.

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Lac-Mégantic Train Derailment On July 5, 2013



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Lac-Mégantic Train Derailment On July 5, 2013

- A Montreal, Maine & Atlantic Railway (MMA) train arrived at Lac-Mégantic, Quebec, carrying 7.7 million litres of petroleum crude oil in 72 Class 111 tank cars.
- The train was parked on a descending grade.
- Hand brakes were applied on all 5 locomotives and 2 other cars.
- There were mechanical difficulties noted throughout the trip; therefore, the train was spotted overnight.



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Lac-Mégantic Train Derailment On July 5, 2013

- A fire was reported and the Fire Department was on scene. Fire was extinguished.
- Electrical breaker was shut off following the Railway's instructions.
- The Fire Department acted on their own knowledge.



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Lac-Mégantic Train Derailment On July 5, 2013

- With all the locomotives shut down, the air compressor no longer supplied air to the air brake system.
- As air leaked from the brake system, the main air reservoirs were slowly depleted, gradually reducing the effectiveness of the locomotive air brakes.
- As it moved down the grade, the train picked up speed, reaching a top speed of 65 mph. It derailed near the centre of the town at about 1:15 a.m.



Aftermath and Emergency Response

- Almost all of the 63 derailed tank cars were damaged, and many had large breaches.
- About six million litres of volatile petroleum crude oil was quickly released.
- The fire began almost immediately.
- The ensuing blaze and explosions left 47 people dead and a massive evacuation.



Work continues on July 16 at the crash site of the train derailment and fire on July 5 in Lac-Mégantic, Que. that left 37 people confirmed dead and another 13 unaccounted for. (Ryan Remiorz/Pool/Canadian Press)



Root Causes of the Lac-Mégantic Train Derailment

- Fire in the locomotive
- Braking force
- Tank cars were built to an older standard and lacked enhancements
- Safety culture at MMA
- Transport Canada
- Single-person crews
- Dangerous goods: inadequate testing, monitoring, and transport

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Key Findings

- Transport Canada must take on a greater role in adhering to standards.
- Canadian railways must put in place additional physical defences to prevent runaways.
- Emergency response assistance plans must be created when large volumes of liquid hydrocarbons (e.g., oil) are shipped.
- Railway companies should conduct strategic route-planning for all trains carrying dangerous goods.
- Enhanced protection standards must be put in place for tank cars.
- Railway companies should be made accountable to OHS management systems.



Maple Leaf Foods' Learnings From The Incident

- **Identification of Risk Planning:**
 - Predicting risk
 - Researching and identifying internal/external risks to an organization
 - Liaising with government regulatory agencies, including Ministry of Labour, Fire Departments
- **Importance of an Effective Operational and Reputational Risk Management Program:**
 - Prevention, Preparedness, Reporting, Response, Recovery
 - Building a culture that encompasses all layers within the organization
- **Incident Scene Management:**
 - Outlining respective organizational areas' responsibilities, practices, and resources
 - Executing incident response
 - Partnering with Emergency Responders



Linking The Key Learnings Into Building A Strategy







Maple Leaf Foods' Operational Risk Management Program

Maple Leaf Foods' Operational Risk Management: A Business Case

MLF Location	Date	Incident Description
Brandonford	January 28, 2010	• Significant ammonia leak
Parma	April 4, 2011	• Fire from hot work on a door.
Laird	November 9, 2011 at 3:15 p.m.	• Significant roof fire.
Mir	March 2012	• Significant roof fire.
Bartor Road	March 12, 2012	• Fire in a false ceiling in the stuffing department.
Lagimodiere	April 10, 2012	• Fire in packaging room 49 in the roof and wall.
Lagimodiere	July 11, 2012	• Three violations of the City of Winnipeg Fire Prevention By-Law.
Lagimodiere	November 25, 2012	• Fire at Line 5 fryer.
Brandonford	January 23, 2014 at 9:45 a.m.	• Fire in the Char-marker.
Courtneypark	February 14, 2014 at 9:00 a.m.	• The Fryer caught fire due to the burners being on with the oil level low.
Courtneypark	March 13, 2014 at 5:30 a.m. and 12:24 p.m.	• The coil in the Fryer A. A few hours later, flames were escaping outside the boiler. The Fryer was restarted again and the Fryer room was on fire and the ramp.
Brandon	April 9, 2014	• Char-marker flames escaped the ramp.
Walker Drive	April 14, 2014	• Char-marker flames escaped the ramp.
Courtland	May 13, 2014	• Significant ammonia leak.
Courtland	May 24, 2014 at 5 p.m.	• Significant electrical vacuum room fire.
McLeod	June 17, 2014	• Critical Ammonia leak in Zone 4.
Walker Drive	September 17, 2014	• Ammonia leaked up from the oven because of grease build-up on top of the Oven.
Lagimodiere	October 8, 2014	• Ammonia leak in Processing room #25 above the smokehouse area.
Walker Drive	March 24, 2015	• A container in non-production storage room containing cardboard, spices, packaging and other material related to production.
Walker Drive	June 22, 2015	• A small fire occurred in the Char-marker area in the Oven room.
Heritage	July 4, 2015	• There was a Genie High Reach fire in the shipping area.

*15 fires in MLF since 2010!
2 significant ammonia leaks!
2 fires in Winnipeg!
Impact \$12.2MM!*

Objective of MLF's Operational Risk Management

Partnering with Emergency Responders, Regulatory Bodies and Insurance Companies

- To partner with Aon and FM Global and develop a formal MLF's Operational Risk Management Program that consists of:
 1. Prevention Measures
 2. Preparedness Measures
 3. Incident Response
 4. Incident Communication
 5. Recovery and Business Continuity



Operational Risk Management Program Elements

- 1. **Operational Risk:**
 - Operational risk is the risk of loss resulting from inadequate or failed processes or systems, human factors, or external factors that can impede business objectives. It includes legal risk, but excludes strategic and financial risk.

- 2. **Reputational Risk:**
 - Reputational risk occurs when there is a situation, occurrence, or threat (intended or otherwise) that could negatively impact stakeholders' perception of the Company and damage its reputation.
 - For the purpose of the Emergency Management Council, certain reputational risks may be handled outside of the Council's communication process. These threats could include hostile media or consumer inquiries, negative social media posts, confidential employee and labour relations matters, and community affairs.
 - These situations are managed by Corporate Communications, Consumer Affairs, and Digital Marketing as required.



Operational Risk Management Scope

- **Internal risks that directly impact MLF:**
 - Examples:
 1. Fire or power outage within a MLF site
 2. Product breach (e.g., tampering, contamination)
 3. Animal welfare during transportation
 4. Systems failure (SAP)
 5. Environmental spills or releases from a MLF site or a vehicle

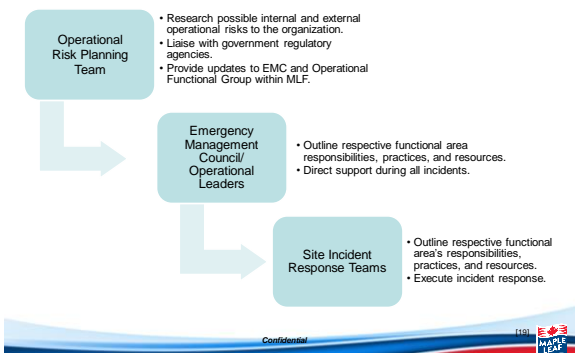
- **External risks that could impact MLF's business continuity:**
 - Examples:
 1. SARS/Pandemics
 2. Animal Diseases
 3. Environmental spills or releases from neighbouring sites
 4. Fire or explosion at a neighbouring or adjacent site
 5. Extreme weather events



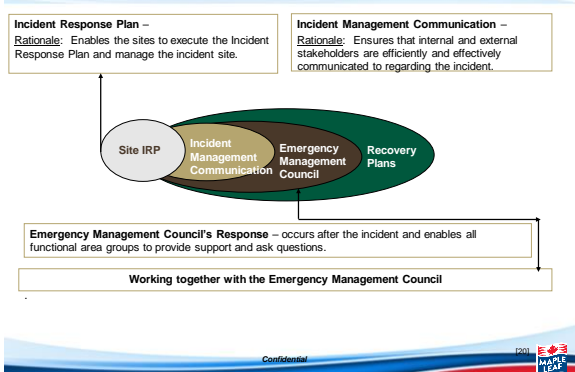
Maple Leaf Food's ORM Program Overview

MLF's Operational Risk Management (ORM) Program	
Program Modules	Components
1. Overview and Introduction	<ul style="list-style-type: none"> High Level Vision Detailed Introduction
2. Emergency Management Council/ Incident Response Teams	<ul style="list-style-type: none"> Team Formation/Roles and Responsibilities Functional Area Working Groups
3. Incident Management Communication	<ul style="list-style-type: none"> Incident Management Communication Program
4. Prevention	<ul style="list-style-type: none"> Assessment/Identification of Gaps FM Global Engineering Visit Audit Components (Site and Council Level) Regulatory Compliance
5. Preparedness	<ul style="list-style-type: none"> Assessment/Identification of Gaps Response Plans (Functional Level) FM Global Engineering Visit Audit Recommendations (Site and Council Level)
6. Response	<ul style="list-style-type: none"> Assessment/Identification of Gaps Response Plans (Functional Level) Training and Exercises
7. Recovery and Business Continuity	<ul style="list-style-type: none"> Development of Business Continuity Plans (Site and Functional Level)

Operational Risk Management Structure: A Cultural Approach



Managing A Crisis



MLF's Operational Risk Management System

- Maple Leaf Foods has developed and implemented an Operational Risk Management System that includes:
 - A SharePoint site with a calendar of Operational Risk Management activities (e.g., regulatory tabletop exercises, monthly Emergency Management Council meetings, etc.).
 - Annual plans
 - Tabletop exercises target internal and external risks, as well as involves different functions.
 - Relationships with regulatory bodies have been established.
 - Sites' Emergency Response Teams have been expanded to include an holistic approach.
 - The Emergency Management Council was activated effectively 15 times in 2015 to manage incidents.
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Questions?



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