Photo: Presenters and sponsors of inaugural Combustible Dust Safety Forum, October 2023

In October, a group of industry safety professionals gathered in Vernon, BC for the inaugural Dust Safety Education Forum. The goal was to provide combustible dust safety education to participants from forest products manufacturing and other industries that have combustible dust hazards. In total, there were 40 participants from multiple industries throughout BC.

Each item on conference agenda was carefully selected to address the key areas of combustible dust safety and risk mitigation for operations when it comes to identifying, evaluating and implementing safety measures to reduce hazards. Conference attendees were also provided a rundown of the regulatory changes ranging from general requirements that focus on wood dust to very specific requirements for all sites that generate, produce or handle combustible dusts. The conference also included two workshops that focussed on practical solutions to identify inherently safer design improvements. In the end, the conference brought forward solutions to improve the culture at operations to support the significant changes industry is facing when it comes to combustible dust hazards.

The Conference Agenda included:

Moderator and MC: Dr. Chris Cloney, Dust Safety Science

Keynote Speakers:

Vernon Theriault, (Survivor Interview Westray Mine Incident)

Dr Rafael Chiuzi, Assistant Professor of Organizational Behaviour University of Toronto (Nurturing Psychological Safety: Unveiling the Science of Human Error and Team Performance)

Mike Tasker & Rodney Scollard, WorkSafeBC (Review of Proposed Combustible Dust Regulations)

Technical Presentations:

Diane Cave, Element 6 (Dust Hazard Assessments)

Francis Petit, Vets Sheet Metal (Exploring Dust Collection Systems)

Dave Noble, Airplus Industrial (Securing Business Continuity, Suppression = Uptime)

Panel Discussion: (How do the Proposed Changes to BC Regulations Impact Your Business)

Bill Laturnus, Senior Safety Advisor, Manufacturing Safety, BC Forest Safety Council

Mike Tasker, WorkSafeBC

Lorne Davies, Specialist Safety Advisor, Manufacturing Safety Alliance of BC

Bringing Safety to Life Workshops: (A Framework for Resilient Operations)

Kayleigh Rayner Brown, Owner, Obex Risk Ltd.

Bill Laturnus, Senior Safety Advisor, Manufacturing Safety, BC Forest Safety Council

Gorman Bros. Lumber Hosts a Tour in West Kelowna BC for the Manufacturing Advisory Group

This past September, MAG members held their 3rd quarterly meeting in West Kelowna. As part of each meeting, the group tours the host sawmill to get a first-hand look at how sawmill operations are managing and implementing safety in day-to-day operations and how sawmill workers are utilizing safety in their daily roles.

During their 3rd quarter meeting, the group toured the Gorman Bros. Lumber mill as part of their meeting site visit. During the mill tour, the group was shown the mobile equipment pedestrian barriers which included barrier walk-throughs (pedestrian chicanes) with solar-powered warning lights.

A big thank you to Gorman Bros. Lumber for sharing their on-site safety initiatives with the group and providing a behind-the-scenes look at their fine-quality lumber facility.

To learn more about Mobile Equipment – Pedestrian Interface Safety, download MAG's free safety resources from the BCFSC website.

The Importance of Process Safety Management in Managing Combustible Dust: New Report

Byline: Kayleigh Rayner Brown, MASc, P.Eng. (Obex Risk Ltd.)

The Wood Pellet Association of Canada (WPAC), BC Forest Safety Council (BCFSC), Dalhousie University, and DustEx Research Ltd., along with Obex Risk Ltd. as project technical lead, recently completed a research project to look at the implementation of process safety management (PSM) using the CSA standard Z767 *Process Safety Management* as the framework.

Around the world, process safety management (PSM) is becoming central to worker safety and managing risk. It can help prevent fires and explosions to protect personnel, operations, and production. Safer operations are more profitable operations, and PSM contributes to reductions in costs related to maintenance, insurance, capital, and production.

It is also gaining traction here in Canada among various industries, governments and provincial regulators. It's the focus of the Canadian Standards Association's *Z767 Process Safety Management* standard, the proposed second edition of which was recently out for review. CSA Z767 is an established Canadian standard for PSM developed by a technical committee comprised of subject matter experts across sectors including oil and gas, mining, regulatory authorities, emergency response, chemicals, and safety consulting.

For the pellet sector, much of our risk lies in combustible dust. The recommendation from *Integrating Process Safety Management into Canadian Wood Pellet Facilities that Generate Combustible Wood Dust*, was the industry proceed with PSM implementation through a strategic long-term plan. You can read our short summary which includes links to resources and easy-to-use tools you can begin using in your operation today.

Each of the PSM elements described by CSA Z767 are present in the operations, but there are opportunities to develop formal documentation to fully implement each of the 16 PSM elements and close gaps to continuously improve the safety of operations.

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PROCESS SAFETY MANAGEMENT ELEMENTS			
PROCESS SAFETY LEADERSHIP	**UNDERSTANDING HAZARDS AND RISKS**	**RISK MANAGEMENT**	**REVIEW AND IMPROVEMENT**
Accountability	Process knowledge and documentation	Training and competency	Investigation
Regulations, codes, and standards	Project review and design procedures	Management of change	Audits process
Process safety culture	Process risk assessment and risk reduction	Process and equipment integrity	Enhancement of process safety knowledge
Conduct of operations — senior management responsibility	Human factors	Emergency management planning	Key performance indicators

Overall, we found PSM element implementation can be broken down into phases 1, 2 and 3 to provide a pathway for implementation that is achievable for smaller organizations. Phase 1 focuses implementation efforts on high-priority elements that present the most potential to provide systemic changes in organizations and manage risk.

THREE PHASE PROCESS

The implementation of the PSM elements (found on page 1) has been broken down into three phases so it is achievable for smaller organizations.

PHASE 1

- Accountability
- Process safety culture
- Process risk assessment and risk reduction
- Management of change (MOC)
- Investigation
- Key performance indicators (KPIs)

PHASE 2

- Conduct of operations
- Process knowledge and documentation
- Human factors
- Training and competency
- Process and equipment integrity

PHASE 3

- Emergency management planning
- Project review and design procedures
- Audit process
- Regulations
- Standards and codes
- Enhancement of process safety knowledge

Numerous implementation tools have been collected and developed, including PSM gap analysis worksheets, industry best practices, informative factsheets, and an implementation strategy.

The outcomes of this project serve as a foundational framework for the wood pellet industry, as well as other small-to-medium operations in high-hazard industries, to implement PSM. This project was funded through a WorkSafeBC Innovation at Work grant (now Applied Innovation).

To support the ongoing development of the CSA Z767 standard from the perspective of the wood products manufacturing industry, Kayleigh Rayner Brown, MASc, P.Eng. (Obex Risk Ltd.), Bill Laturnus (BC Forest Safety Council), Gordon Murray (WPAC) and Fahimeh Yazdan Panah (WPAC) have joined the technical committee.

Operations are encouraged to contact Gordon Murray (gord@pellet.org) with questions about the vision and goals for PSM implementation.