



Applied Innovation Grant from WorkSafeBC Awarded for Research Project Focussing on Inherently Safer Design (ISD) in Mobile Equipment Risk Reduction in BC Sawmills and Warehouse Operations

Mobile Equipment (ME) is a paramount concern for high-risk industries like sawmills and warehouse operations. There is a significant need for companies using ME in daily operations to integrate a range of safety measures, including administrative and engineering controls, as well as Inherently Safer Design (ISD), to help reduce the risk of ME. This can be a daunting task to determine what needs to be done on site and whether there are additional budgetary requirements needed to administer safety changes.

ME operators require proper skills and training for operating safely on a worksite. But there are site factors they cannot control that can create high risk situations for site workers working in and around ME. The ME-pedestrian interface (where ME and personnel interact) can lead to struck-by incidents. Additionally, over the years there has also been significant increases in Musculoskeletal Injuries (MSIs) claims from ME operators due to the repetitive nature of driving techniques, ergonomic hazards and mechanical hazards such as constant exposure to engine vibration.

There is a need to identify new ways to reduce ME risk in sawmills and general warehouse operations across BC by evaluating how processes and worksites can be redesigned or reconfigured, rather than only relying on add-on equipment and procedures.

A project team of industry experts and academic researchers led by Kayleigh Rayner Brown of Obex Risk Ltd., applied for an Applied Innovation research grant from WorkSafeBC. This grant (formerly known as Innovation at Work) supports research projects that solve workplace problems and include projects that develop or apply knowledge and insights to address workplace health and safety issues and/or engage in knowledge transfer and exchange (KTE) activities.

The team was awarded a \$43,000 Applied Innovation Research Grant by WorkSafeBC for this research project

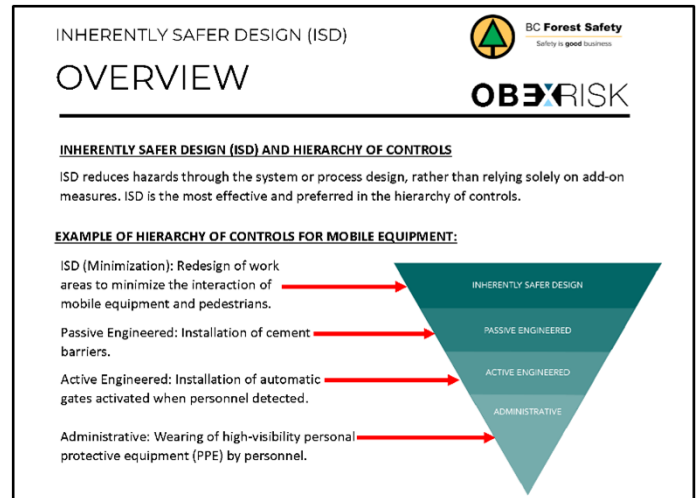
aimed at reducing ME hazards in sawmills and warehouses by integrating ISD into their operations. The project will identify how ISD can be used as a best practise in this sector and to investigate innovations, insights and new approaches for managing ME risk in BC sawmills and warehouse operations. The research from this

study will provide integrated solutions for industry to easily adopt into their current operations and help reduce ME hazards without having to completely alter or inhibit companies from adapting operations due to exorbitant adjustment costs to operations.

The project involves bow tie analysis, a tool that has been successfully implemented in the wood pellet industry during the critical control management (CCM) project as part of WorkSafeBC's Process Safety Initiative. The project also involves ISD workshops, an approach used in the oil and gas industry that is being adapted in innovative ways for ME and other high hazard applications.

The project outcomes will include guidance and tools for identifying ME-pedestrian interface hazards and developing risk reduction strategies that can be integrated into a company's Safety Management System within sawmills and warehouse operations. Some of the key areas of focus will research key opportunities for ISD, as well as options for passive engineering, active engineering, and administrative safety measures such as:

- Redesign pedestrian workspace to reduce ME traffic. (ISD)
- Implement grade separation (e.g., pedestrians use elevated paths and are separated from ME (ISD)



- Improved site layout planning and traffic engineering changes for sites (ISD) Install barriers or guardrails between ME and pedestrians if the same route must be used. (Passive engineering)
- Install motion warning devices on forklifts. (Administrative with active engineering component)
- Implement collision avoidance and guidance for onsite driving procedures. (Administrative)
- Implement safe work procedures to reduce injuries caused by powered industrial trucks such as pallet jacks and forklifts. (Administrative)
- Establish Operator and Worker Training to address ME-pedestrian interface risk. (Administrative)

The research results will support sawmills and general warehousing personnel, including frontline personnel, supervisors, managers, and decision-makers at these operations. This research will also support ME safety in other sectors, including the general trucking industry, as well as wood pellet production. Research results will be broadly shared and communicated, including to companies supported by Safety Driven, as well as the Wood Pellet

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Association of Canada. This research also directly supports WorkSafeBC's Manufacturing High Risk Strategy. The ISD research project is an important step forward in reducing high-risk ME hazards in sawmills and warehouse operations. By developing practical and effective strategies for integrating ISD into these operations, the project team hopes to make these workplaces safer for everyone involved.

The ISD project is led by a research team made up of industry experts and academics with expertise in safety protocol integration, hazard identification and risk management for high-risk industries. The team includes:

Ms. Kayleigh Rayner Brown, MAsc, P.Eng., is Director of Obex Risk Ltd. in Halifax, Nova Scotia. She holds a Master of Applied Science (Dalhousie University) in chemical engineering, specializing in process safety, ISD, and hazard analysis. Kayleigh has played an integral role in enhancing process safety in wood pellet production as project technical lead in two

previously funded WorkSafeBC Innovation at Work projects. Kayleigh has previous key experience in hazard analysis workshop facilitation, ISD research, stakeholder engagement, and project management.

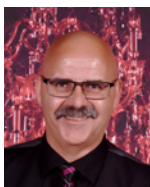
Dr. Paul Amyotte, P.Eng. a Professor of Chemical Engineering in the Department of Process Engineering and Applied Science at Dalhousie University. Dr. Amyotte is a recognized expert in the field of ISD and has an extensive record of authorship in ISD, process safety, and dust explosion research.

Mr. Bill Laturnus is a Senior Safety Advisor, Manufacturing at the British Columbia Forest Safety Council (BCFSC). Bill has extensive experience in sawmill operations, and as a proponent of ISD, supports the incorporation of practical applications of ISD at sawmill worksites. Bill has recently conducted key safety activities focusing on risk reduction of the ME-pedestrian interface with the Manufacturing Advisory Group (MAG). Bill also has 10 years of experience auditing SMSs in forest products manufacturing.

Ms. Jacqueline Morrison is a manager in OHS Consultation & Education Services at WorkSafeBC. Having worked in warehousing and transportation for many years and having served on several workplace road safety initiatives, she has a special interest in addressing the risk of ME and pedestrian struck-bys. The most effective way to control workplace risk is through safer design to eliminate, isolate or reduce the risk to workers. She is supporting the project by identifying participants for the workshops, sharing subject matter expertise and will support the communication of any learnings to industry, employers, and workers on how to control this risk more effectively through inherently safer design.

Mrs. Megan Martin, Senior Manager, Credentialing Services, Prevention Services Division provided project support as a co-applicant. Megan has transitioned roles and Jacqueline has since joined the project team. The researchers thank Megan for her support. 🌱

Manufacturing Welcomes Newest MAG Auditor



BC Forest Safety Council welcomes Russ Brackenbury, the newest auditor to be trained to conduct MAG audits.

Russ has worked in the forest industry for 31+ years, with just over 30 years at Downie Timber in Revelstoke. He held several positions at Downie, including Production Manager, finishing his career as the Safety Manager.

Russ was also the Chaplain for the Revelstoke Fire Rescue teams. He explains *"there is a very large sign on the overhead doors of the firehall that says, **"Everyone comes home"** and I very much believe the forest industry needs to continue working toward this goal."* This is truly a testament to Russ' passion for safety.

Over the years, Russ has continued to grow and learn and challenge himself to ensure he could provide the best service and information to his employers and workers in those workplaces.

Russ recently retired from Downie and is currently conducting BASE and MAG audits. In addition to conducting MAG Audits, he is also a mobile drug tester for DriverCheck in his area. He describes himself as a humble safety geek who is empathetic toward those in need and advocates to solve issues fairly – realizing the issues are not always the people.

Russ lives in Revelstoke and is an avid camper and fisherman and takes to the road at every available opportunity. 🌱

MAG Auditor and Safety Advocate, Nicole Brandson, Featured in the Williams Lake Tribune



(Laureen Carruthers photo)

Nicole Brandson, MAG Auditor and Safety Advocate was featured in the March 23rd issue of The Williams Lake Tribune. The feature gave an in-depth look into Niki's dedication to safety and her challenges and successes in building a career as a safety leader in industries predominantly made up of men. Niki is a strong supporter of women leading the charge in safety roles and continues to advocate for young women entering the workforce and building their careers in key safety positions.

Read the full article in [The Williams Lake Tribune](#). 🌱

WPAC Launches Free Online Interactive Operator Safety Training Platform

By Fahimeh Yazdan Panah, Director of Research and Technical Development, Wood Pellet Association of Canada

Operator safety training for wood pellet manufacturers has officially risen to the next level. Safety training is now available anytime, anywhere – and it’s as easy as 1, 2, 3 – thanks to a new online platform that delivers a free, comprehensive, digital e-learning, safety training program for plant operators and supervisors across companies.

Developed by a team of safety specialists, WPAC and the BC Forest Safety Council, the online training system includes videos, industry resources and built-in knowledge assessments. Funding was provided by WorkSafe BC. Before launching the platform, the system was tested by pellet plant operators from British Columbia and Nova Scotia.

“An informative introduction for new operators in training and a valuable refresher for experienced operators as well,” says Cody Braun, Plant Operator at the Premium Pellet plant in Vanderhoof, B.C.

“The pellet industry can really benefit from this new Operator Training – with its interactive media and video, it gives new operators a thorough overview of pellet processing and plant controls. Combined with an in-house training program, it will not only make more knowledgeable plant operators, but ultimately reduce the time required to train new operators and ensure all the key topics are covered,” says Julie Griffiths, Quality, Sustainability, and Environmental Program Coordinator at Shaw Renewables’ NB and NS plants.

As pellet manufacturers know, plant operators are at the controls of the facility and play a key role in ensuring their own safety and the safety of their co-workers. User feedback is very important to success as we continue to refine this innovative learning platform. We strongly encourage anyone using the training to submit their input at the end of each module or email me directly at fahimeh@pellet.org.

“The Operator Competency program is another example of the pellet industry working together collaboratively to share knowledge and best practices between companies, enabling the industry to develop the best programs possible to support their people to build a strong safety culture,” says Michael Fantillo, Production Supervisor at Premium Pellet.

IT’S AS EASY AS 1, 2, 3

Step 1 Go to the website www.wpaclearning.com or [Click here](#)

Step 2 Create an account

Step 3 You will automatically be directed to your Dashboard where you can select from a variety of courses, complete testing and get your certificate.

Modules Covered:

PLANT OPERATORS HEALTH AND SAFETY TRAINING

- Risk and Risk Control
- Workplace Attributes
- Human Factors
- Legislation, Regulations and Standards
- Health and Safety for Plant Operators
- Upset Conditions
- Process Safety Management
- Plant Operations
- Combustible Dust and Gas

PROFESSIONAL SKILLS FOR SUPERVISORS

- Cornerstones of Effective Supervision
- Orientation, Training and Skills Development
- Leadership and Professionalism
- Communication Skills for Supervisors
- Due Diligence
- Hazard Identification, Inspection and Investigation

For more information, read the [Fact Sheet](#). 




Photo: WPAC

Sold Out Human Factors Workshops Highlight Pellet Sector Commitment to Safety

The fully booked free workshops on Human Factors highlight the pellet sector's commitment to continuous learning and adopting new and better ways to make our industry safer.

The first workshop on Human and Organizational Performance for Critical Controls, hosted in Kelowna by the Wood Pellet Association of Canada (WPAC), was led by WorkSafeBC facilitators Jenny Colman MSc., CRSP (Human Factors Specialist, Risk Analysis Unit) and Jennifer Fung P.Eng, CRSP (Sr. Engineer (Chemical), OHS Practice and Engineering Support).

A key outcome from the workshop for participants included a practical tool for evaluating critical controls, understanding how critical controls can be influenced by worker actions, and optimizing systems to help ensure that critical controls that involve human input are more reliable.

Another free workshop is being hosted on May 31 in Prince George. While this workshop is fully booked, should there be additional demand, the opportunity to host another workshop will be explored. For more information, contact Fahimeh Yazdan Panah, Director of Research and Technical Development, Wood Pellet Association of Canada, email fahimeh@pellet.org or call (778) 990-2656. 

WPAC Updates its One-Stop Safety Resource for Pellet Producers

by Fahimeh Yazdan Panah


The Wood Pellet Association of Canada's (WPAC) improved One-Stop Safety Resource, created last year, has been updated with the latest safety information to include:

- The 2023 safety plan
- New video: Innovating Our Way to a Safer Better Product
- Updates on belt dryer project including final report, fact sheet and key takeaways
- Final report on deflagration isolation
- Video: 15-minute safety huddle Inherently Safer Design

The compendium reflects our sector's commitment to safety and to implementing new ways to be safer every day. The safety initiatives are the result of industry-wide participation, leadership and input. WPAC's safety committee is the key driver behind most of these initiatives.

In a recent interview with Julie Griffiths, newly appointed chair of the WPAC Safety Committee, says that through the WPAC Safety Committee industry can address challenges and opportunities together, rather than just reinventing the "safety wheel" at each company. Through the committee, members are building new safety initiatives from the ground-up while participating in pilots and accessing vital information along the way.

"Let's keep it real: there are no shortcuts to safety. If you aren't already on the committee, then get on board, or get someone on your team to join," says Griffiths. "One hour a month is a small commitment for the extensive safety knowledge and resources that you'll take away from the committee."

The One-Stop Safety Resource is a living document and regularly updated so make a point of checking back. You can find it on [WPAC's website](#). 

Fahimeh Yazdan Panah, Ph.D., is the director of research and technical development for the Wood Pellet Association of Canada.

Understanding Audit Processes for Combustible Dust

Combustible Dust Safety should always be a top priority as it can pose a serious hazard in both sawmills and wood pellet manufacturers putting worker safety and overall operations and facilities at risk of a serious injury or incident. Proper safety measures are a necessary component of a company's safety management system, and an audit of those processes can help identify areas of improvement and help reduce the hazards of Combustible Dust. In a recent episode of the Dust Safety Science Podcast, titled *Understanding Audit Processes for Combustible Dust (DSS217)*, Bill Laturnus, BCFSC's Senior Safety Advisor for Manufacturing Safety, joined Dr. Chris Cloney to discuss the audit process for combustible dust safety and the importance of the [WPAC \(Wood Pellet Association of Canada\) Audit Tool](#).

[Download this episode](#) or go to the Dust Safety Science website and listen from there. 

