



SILO FIRE RESOURCES

WHY THIS MATTERS

Silos and other enclosed storage systems can present serious fire, explosion, toxic gas, and oxygen-deficiency hazards when storing combustible organic materials such as wood pellets, sawdust, chips, hog fuel, and other wood fibre. Fires may begin from self-heating, smouldering material, introduced embers, equipment friction, hot work, static electricity, or other ignition sources. Because silo fires can develop deep inside stored material and may not behave like conventional fires, early detection, planning, and fire plan coordinated responses are critical.

In response to the [NIOSH Fire Fighter Investigation report](#) on the Robbins Mills Silo Fire/Explosion, the following BC OHS regulations and recommended actions are provided for review. The report offers valuable information for all industries that store combustible dust in silos. Sites should also review and update their site fire plans, including any revisions recommended by the Fire Commissioner.

RECOMMENDED ACTIONS AND BEST PRACTICES:

- Review the applicable regulations:
 - [OHSR 5.97 to 5.104](#) Hazardous Substances - Emergency Planning (including drills)
 - [OHSR 31.5](#) General Requirements - Procedures (firefighting)
 - [OHSR 4.17](#) Emergency Preparedness and Response - Notification of fire departments
 - Fire Commissioner: revise Site Fire Plans
- Review and update your site-specific silo fire response plan, including shutdown, isolation, notification, monitoring, inerting, and controlled discharge procedures.
- Confirm that monitoring and detection systems are functioning, including temperature, carbon monoxide, carbon dioxide, oxygen, and other relevant gas monitoring where applicable.
- Inspect silos, bins, conveyors, dust collection equipment, electrical equipment, grounding and bonding, ventilation, and housekeeping practices for combustible dust and ignition source hazards.
- Train workers, supervisors, contractors, and emergency response partners on silo-specific hazards and response limitations.
- Coordinate with local fire departments before an incident occurs so responders understand the site layout, silo contents, access points, isolation points, and preferred response strategy.
- Do not apply conventional firefighting tactics to silo fires without a site-specific plan and qualified technical guidance, as inappropriate tactics can increase explosion, toxic gas, structural, or worker-safety risks.



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Please review the resources below and confirm that your site's silo fire prevention and response plans are current, practiced, and aligned with your equipment, stored materials, and emergency response arrangements. Attention should be given to early detection, combustible dust control, ignition source control, gas monitoring, emergency isolation, and coordination with first responders.

RESOURCES TO REVIEW AND SHARE

Resource	How it can help
Wood Pellet Association of Canada Silo Fires: Prevention and Response Workshop	Provides silo fire response resources, including a fire or potential explosion risk assessment tool and silo fire management procedure.
Wood Pellet Association of Canada: Combustible Dust and Wood Fibre Storage Resources	Includes guidance and tools for managing combustible dust and wood fibre storage hazards, with emphasis on risk mitigation, gap analysis, and emergency preparedness.
Dust Safety Science: Prevention and Response to Silo Fires	Summarizes practical considerations for silo owners, managers, and first responders, including monitoring, inspection, fire response, gas buildup, and oxygen-deficiency hazards.
FutureMetrics / industry white papers on wood pellet silo fire response	Shares lessons learned and best practices from wood pellet silo fire incidents, including planning, monitoring, inerting, and controlled response strategies.
Henry Persson Silo Fires	Fire extinguishing and preventative and preparatory measures: Chapter 6 – General information about silo types and silo storage.

For further information regarding Silo Fires please contact **Bill Laturnus** Senior Safety Advisor, Manufacturing BC Forest Safety Council at blaturnus@bcforestsafety.org or 778-268-0653