

PBHE's Update Report on the Ammonia Leak at Fernie Memorial Arena on October 17th, 2017

Co-Authors: Brian Holtham, President of PBHE

Paulette Medal, Senior Skating Advisor and Director of Strategy & Development of PBHE, EIT

Date: December 21st, 2018

Precision Blade Honing Enterprises Inc. (PBHE) has produced this update report to identify key articles and resources relating to the fatal ammonia leak that took place on October 17th, 2017 at Fernie Memorial Arena and the results of WorkSafeBC's yearlong investigation.

PBHE's objective is to increase awareness, knowledge, and clarity on the tragic Fernie incident so that more lives are not lost in the future. Ammonia rinks can be safely operated but the training and equipment must be upgraded and attitudes must change. People must be held accountable and the dangers involved must be understood.

1.0 Critical Background Resources

WorkSafeBC has completed its investigation and has released detailed reports and an animation of the incident. To develop a thorough understanding of the sequence of events and to get a much clearer overview read, "[Incident Investigation Report \(Redacted\)](#)" by WorkSafeBC, which is a 74 page PDF. (Corduff & Young "Incident Investigation Report (Redacted)" 2018) It is PBHE's opinion that this document and the "[Appendix to the Investigation Report](#)" by Technical Safety BC (Scrivener "Appendix" 2017) are invaluable.

The Appendices released by Technical Safety BC is of poor print quality. Therefore, it is helpful to obtain the Appendix released through the Freedom of Information and Protection of Privacy Office, which provides legible diagrams and text. (Workers' Compensation Board of B.C. "Request for Access to Records (form 11M7)" 2014) The process to receive a copy is quick and easy. Fill out the [form](#) found on WorkSafeBC's website (Workers' Compensation Board of B.C. "Request for Access to Records (form 11M7)" 2014) and include the following information:

- Incident Date: October 17, 2017
- Notice of Incident Number: 2017160530032
- Investigation Number: FSI-REG-2017-0123

PBHE's analysis, "[PBHE's response to Technical Safety BC's report](#)", should be reviewed for an unbiased perspective and a clear explanation of the safety concerns that exist in our industry. (Holtham & Medal "Fernie Memorial Arena Ammonia Leak" 2018)

WorkSafeBC has released an excellent six minute video, titled "[Fernie Memorial Arena Incident Animation](#)", which reviews the accident. (WorkSafeBC "Fernie Memorial Arena Incident Animation" 2018) It is a must see video for all interested parties. It illustrates how three experienced workers lost their lives. They were exposed to fatal ammonia concentrations after a coupling failed on the brine system due to increased pressure created

by a chiller ammonia leak. The workers were changing the refrigeration equipment's compressor oil (due to contamination), in which part of the system was previously isolated.

2.0 The Violations

The Redacted Incident Investigation Report provides specific details on the Violations and Orders pertaining to the City of Fernie and Toromont Industries Ltd. (CIMCO Refrigeration) in Section 4.4.

The City of Fernie was cited with seven violations of the Occupational Health and Safety Regulation and one under the Workers Compensation Act. Violations pertaining to the Occupational Health and Safety Regulation include failing to ensure regular inspections of the workplace conducted at intervals to prevent unsafe working conditions, failing to ensure the equipment in the compressor room was capable of safely performing its function, failing to review the emergency plan annually, failure to train/test workers, failure to develop and implement an exposure control plan, failure to ensure a service /maintenance equipment plan, and failure to ensure proper safety respiratory equipment on site. The violation of Workers Compensation Act was failure to ensure the health and safety of all workers present at the workplace at which this employer's work was being carried out. (Corduff & Young "Incident Investigation Report (Redacted)" 2018 Page 71)

Toromont Industries Ltd., which owns the refrigeration company CIMCO, was cited with two violations under the Workers Compensation Act. Violations include failing to fully consider or implement an ammonia emergency response procedure, and failing to assess/communicate the risk to workers and institute effective hazard controls. (Corduff & Young "Incident Investigation Report (Redacted)" 2018 Page 72)

The City of Fernie and CIMCO have indicated they would work to implement the 18 recommendations by Technical Safety B.C. identified in the "[Investigation Report](#)". (Technical Safety BC "Investigation Report" 2018 Pages 35 to 41)

3.0 Canadian Federal and Provincial Laws

It is generally not discussed during an investigation but when determined by the courts, there are substantial penalties in cases where negligence causes death. There are Canadian Federal and Provincial laws to ensure that proper legal enforcement is applied. Canada has many levels of enforcement up to and including imprisonment. To date, there has been no mention of Bill C-45 in the Fernie reports, although in past accidents this bill has been identified and used to make major cultural and industrial changes.

The following excerpt is taken directly from Canadian Center for Occupational Health & Safety's website (Government of Canada "Westray Bill (Bill C-45) - Overview" 2017):

The Westray bill or Bill C-45 was federal legislation that amended the Canadian *Criminal Code* and became law on March 31, 2004. The Bill (introduced in 2003) established new legal duties for workplace health and safety, and imposed serious penalties for violations that result in injuries or death. The Bill provided new rules for attributing criminal liability to organizations, including corporations, their representatives and those who direct the work of others.

NOTE: The Canadian federal government reuses bill numbers. Currently Bill C-45 is being used to announce Act(s) respecting cannabis and to amend the *Controlled Drugs and Substances Act*, the *Criminal Code* and other Acts.

Sections of the *Criminal Code*

The amendment added Section 217.1 to the *Criminal Code* which reads:

"**217.1** Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task."

The amendment also added Sections 22.1 and 22.2 to the *Criminal Code* imposing criminal liability on organizations and its representatives for negligence (22.1) and other offences (22.2).

Although criminal charges are rare there are a number of examples where accidents in which negligence causing death resulted in sentencing.

On March 22, 2006 BC Ferries vessel Queen of the North sank after going off course and running aground killing two passengers. The ferry navigation officer was charged with two counts of criminal negligence causing death. The officer was reported to have been distracted by a personal interaction he was having with another person and did not realize the vessel was off course. On June 24th, 2013, he was sentenced to 4 years in prison and banned from operating a vessel for 10 years. An appeal has been filed. (Trumpener "10 years after fatal Queen of the North sinking, BC Ferries safer says CEO | CBC News" 2016)

There have also been incidents in Ontario where negligence resulted in deaths that have led to sentencing through Ontario's court system. CBC researched and compiled multiple incidence of this type which can be viewed on CBC's website. (Lancaster "He's among hundreds of workers who die every year, but few bosses are jailed for it | CBC News" 2017)

Ontario's Expert Advisory Panel on occupational health and safety has done an in-depth study taking into considerations all aspects of worker safety. In the end, it comes down to [enforcement and penalties](#) if permanent changes are to be long lasting and permanent. ("Expert advisory Panel" 2018)

4.0 Review of Documentation

PBHE believes that documentation is extremely important. The investigation reports supported by facts are required for the much needed change. Softening the truth to protect individuals or companies will only lead to more accidents that potentially could be avoided.

It should be noted that WorkSafeBC is also in the business of providing [liability insurance](#) to public and private businesses and therefore it may have a potential conflict of interest. (WorkSafeBC "Apply for Coverage" 2018)

4.1 Content

After much review, PBHE feels that the 41 page "Investigation Report", which is a summary by Technical Safety BC, has many omissions and distortions which limit its benefit. These concerns are documented in PBHE's initial response. (Technical Safety BC "Fernie Investigation Report, Findings and Recommendations" 2018)

The City of Fernie said it agrees with WorkSafeBC's statements, that documentation and internal communication could be improved. The City of Fernie published the following, "Although we don't see that the report points out anything specific we could have done to prevent this tragedy, administration and council will take time to review the report and orders in detail to learn from it," in a press release. (Fernie "Fernie Memorial Arena Incident Update" 2018) PBHE's research challenges this statement but it is not our position to make judgement. We can only comment on the information provided through the investigation that has been provided to us.

4.2 Print Quality

It is frustrating when professional documentation is difficult to read due to print quality, often discouraging readers resulting in less interest or motivation to read the document in its entirety. The majority of Technical Safety BC's un-redacted Appendix to the Investigation Report, as previously mentioned, consists of very poor print quality, making it difficult to read. The Appendix obtained from the Freedom of Information, which includes many of the same sections, is of good print quality but is redacted. An example of this comparison is the Acuren section on page 78 of Technical Safety BC's Appendix and the same section on page 57 from the Freedom of Information's Appendix. This substantial, unnecessary difference is unacceptable by any measure. Some of the system schematic diagrams in the Investigation Report by Technical Safety BC are also of poor quality and illegible. There has been no effort to improve these documents. Improved readability is extremely important if these documents are to be taken seriously as an instrument of change. Unfortunately, it undermines the credibility of the authors and the provincial government. This is not the quality or professionalism expected on such a major investigation.

4.3 Current Status of Ammonia rinks in Canada

There are over 1500 ammonia ice rinks in service in Canada and there is no question that hundreds of them are of similar vintage to the one that caused the accident at Fernie Memorial Rink. Some of these rinks have already reported leaks and hospitalization of both staff and the general public. Here are a few articles spanning across Canada's ten provinces and three territories which emphasize the dangers of ammonia leaks and rink closures.

British Columbia: [Ammonia leak latest of many in BC: report 2015](#) (Marshall "Ammonia leak latest of many in BC: report" 2015)

[Hazmat team called to Community centre for Ammonia Leak](#) ("Hazmat team called to community centre for ammonia leak" 2018)

Alberta: [Red Deer rinks well-prepared to avoid ammonia emergencies](#) (Hall "Red Deer rinks well-prepared to avoid ammonia emergencies: City" 2018)

[Ammonia leak shuts down rinks at Airdrie's Genesis Place](#) ("Ammonia leak shuts down rinks at Airdrie's Genesis Place" 2018)

[Canada Olympic Park Officials won't say how much ammonia is used for sledding track and ice rinks](#) (Labby "Canada Olympic Park officials won't say how much ammonia it uses for sledding tracks and ice rinks | CBC News" 2017)

Saskatchewan: [Safety Authority inspector confident with ammonia risk safeguards](#) ("Safety authority inspector confident with ammonia risk safeguards in Sask. | CBC News" 2017)

Manitoba: [Rink safety sparks concerns](#) (Sanders "Rink safety sparks concerns" 2018)

Ontario: [Risk of ammonia leak means Goderich Memorial Arena rink out of commission](#) ("Risk of ammonia leak means Goderich Memorial Arena rink out of commission | CBC News" 2018)
['A devastating day': Leak permanently closes Prescott ice rink](#) ("A devastating day': Leak permanently closes Prescott ice rink | CBC News" 2018)

Québec: [Ammonia leak shuts Gatineau's Guertin arena](#) ("Ammonia leak shuts Gatineau's Guertin arena | CBC News" 2018)

New Brunswick: [All rinks, arenas in New Brunswick to be inspected by end of March](#) (Campbell "All rinks, arenas in New Brunswick to be inspected by end of March" 2018)

Nova Scotia: [Ammonia levels safe in Nova Scotia, rink managers say](#) ("Ammonia regulated in N.S. to prevent leaks, assure rink managers | CBC News" 2013)

Prince Edward Island: [Ammonia leak confirmed at Pownal rink after evacuation](#) (Fraser "Ammonia leak confirmed at Pownal rink after evacuation, hazmat team response | CBC News" 2017)

Newfoundland & Labrador: [Town of Marystown works to update arena's refrigeration system](#) (Herridge "Town of Marystown working to update arena's refrigeration system | The Telegram" 2017)

Yukon: [Port Alice closes arena after not receiving taxes from pulp mill plus ammonia equipment upgrades](#) ("Port Alice closes arena after not receiving taxes from pulp mill" 2018)

North West Territories: [WSCC investigates ammonia leak that led to evacuation of downtown Hay River](#) (Thomson "WSCC investigates ammonia leak that led to evacuation of downtown Hay River | CBC News" 2016)

Nunavut: none found

In reviewing the above websites it is obvious that there is a major problem in the industry and various levels of awareness that have existed for years. Below are additional websites that focus on making ammonia rinks safer.

[Make ammonia – based systems safer](#) (Herron "Fatal ammonia accident at ice rink sparks safety concerns" 2017)

[Inspections, training needed to prevent ammonia leaks at ice rinks: experts](#) (Karstens-Smith "Inspections, training needed to prevent ammonia leaks at ice rinks: experts | CBC News" 2018)

According to Technical Safety BC's "[Case Study: Ammonia Release Incidents](#)" there were 74 incidents where it was reported that a refrigerant (all types) was discharged in British Columbia between 2007 and 2017. 80% of these incidents resulted in the release of ammonia of which 14 reported personal injuries. (Technical Safety BC "Case Study: Ammonia Release Incidents (2007 – 2017)" 2018)

It is important to note that Technical Safety BC receives its injury reports from operators or first responders immediately following the incident. Ammonia exposure-related injuries may develop or the negative effects resulting of exposure may increase sometime after the initial reports to Technical Safety BC which could increase this statistics. In reviewing reports across Canada it is evident that the statistics are incomplete and that the actual ammonia releases are much greater.

5.0 The Finances

Canada has hundreds of rinks like the Fernie Memorial Arena located in small communities. These small communities often don't have the finances to upgrade their facilities or even meet current operating costs.

The question is, how did these communities get the capital to build the rinks in the first place? The most wide spread resource to build a rink was through Provincial Lottery grants, such as the [Wintario grants](#) (1975 to 1990). Much of the proceeds were directed to sponsoring sport activities in small communities, which resulted in the construction of many ice surfaces. ("OLG Celebrates 40th Anniversary of WINTARIO with Support for Local Charities and TORONTO 2015 Pan Am Games Torch Relay" 2018) The lotteries now, will generally not support capital funds for projects, operating funds or equipment, due to potential liability issues.

Small towns also acquired rinks when a large company provided the cash for a community center, which often included a hockey and curling rink. This was common in "company towns" where the town supported a specific industry such as mining, or pulp & paper. These facilities were handed over to the town/municipal government to manage. The owners of these community rinks became Council members and staff with little understanding of the industry and associated safety requirements. The history and the impact of rinks in [small towns](#) is legendary and they still survive today by relying on volunteers, donations, fund raising events, and sponsorships from local businesses. (Turner "Heartbeat of a small town" 2016)

Some believe the maintenance, staffing and capital replacement costs should be mainly the responsibility of the users and not that of the general tax payer. This is a common practice in condominiums where the owners contribute year after year to financially prepare for future repair and replacement costs. If timely replacement costs cannot be managed closing many of these rinks may be the reality.

6.0 The next step in the Investigation

The Provincial and Federal agencies will now consider the findings of the report to determine the appropriate enforcement action. On its website, WorkSafeBC says that enforcement can include financial penalties or prosecution for the Fernie incident.

PBHE attended Ontario Recreational Facility Association's AGM on December 5, 2018, which included a seminar on the Fernie Accident. Ontario Recreational Facility Association (Orfa) is moving forward to implement lessons learned to increase safety and awareness. Orfa is expanding their existing programs on ammonia chillers, however, they point out that specific training on the workers' unique systems are also imperative. Ontario's provincial policy on old ammonia chillers has not been released.

Art Sutherland from Accent Refrigeration System conducted the seminar on the Fernie accident during Orfa's AGM. He identified that British Columbia has recently enforced a no tolerance policy. If a chiller is leaking ammonia it is immediately taken out of service until it is repaired or replaced. PBHE supports this approach.

7.0 Conclusion

The Fernie Memorial Arena ammonia accident shocked the Nation and it will require ongoing commitment and dedication to ensure that a similar accident does not happen again. PBHE hopes that the Fernie incidence and

our reports have alerted you to the dangers of ammonia and encourages you to investigate the state of the ammonia chillers at your rink. Heightened awareness and persistent demands for safer equipment, training, and conditions by the public, government, and industry professionals will ensure that major changes are implemented.

Work Cited

- "A Devastating Day': Leak Permanently Closes Prescott Ice Rink | CBC News." *CBC News*, CBC News, 22 Aug. 2018, www.cbc.ca/news/canada/ottawa/prescott-rink-closed-ammonia-leak-1.4794509.
- "Ammonia Leak Shuts down Rinks at Airdrie's Genesis Place." Calgary, CTV News Calgary, 4 Feb. 2018, calgary.ctvnews.ca/ammonia-leak-shuts-down-rinks-at-airdrie-s-genesis-place-1.3788301.
- "Ammonia Leak Shuts Gatineau's Guertin Arena | CBC News." *CBC News*, CBC News, 23 Jan. 2018, www.cbc.ca/news/canada/ottawa/gatineau-olympiques-ammonia-leak-rink-1.4500520.
- "Ammonia Regulated in N.S. to Prevent Leaks, Assure Rink Managers | CBC News." *CBC News*, CBC News, 13 Dec. 2013, www.cbc.ca/news/canada/nova-scotia/ammonia-levels-safe-in-nova-scotia-rink-managers-say-1.2463397.
- Campbell, Morganne. "All Rinks, Arenas in New Brunswick to Be Inspected by End of March." *Global News*, Global News, 23 Feb. 2018, globalnews.ca/news/4044204/all-rinks-and-arenas-in-nb/.
- Corduff, Nigel, and Jeff Young. "Incident Investigation Report (Redacted)." WorkSafeBC, WorkSafeBC Investigations, 22 Aug. 2018, www.worksafebc.com/en/resources/health-safety/incident-investigation-report-summaries/unexpected-ammonia-release-fernie-memorial-arena?lang=en.
- "Employers Didn't Protect Workers' Safety in Fatal Ammonia Leak at Fernie Arena: WorkSafeBC." *The Globe and Mail*, The Globe and Mail, 30 Aug. 2018, www.theglobeandmail.com/canada/article-employers-didnt-protect-workers-safety-in-fatal-ammonia-leak-at/.
- "Expert Advisory Panel." Ontario.ca, Ontario Health and Safety, 8 May 2018, www.ontario.ca/document/expert-advisory-panel-occupational-health-and-safety/enforcement-and-penalties.
- Fernie. "Fernie Memorial Arena Incident Update." [Http://Www.fernie.ca](http://www.fernie.ca), Technical Safety BC, 29 Aug. 2018, www.fernie.ca/EN/meta/whats-new/news-archives/2018-archive-1/fernie-memorial-arena-incident-update-1.html.
- Fraser, Sara. "Ammonia Leak Confirmed at Pownal Rink after Evacuation, Hazmat Team Response | CBC News." *CBC News*, CBC News, 10 Apr. 2017, www.cbc.ca/news/canada/prince-edward-island/pei-pownal-rink-evacuated-ammonia-leak-possibl-w-fire-marshal-1.4063862.
- Government of Canada. "Westray Bill (Bill C-45) - Overview." Westray Bill or Bill C-45, Canadian Centre for Occupational Health & Safety, Dec. 2017, www.ccohs.ca/oshanswers/legisl/billc45.html.
- Hall, Josh. "Red Deer Rinks Well-Prepared to Avoid Ammonia Emergencies: City." *RdnewsNOW*, The Canadian Press, 21 Mar. 2018, rdnewsnow.com/article/576546/Red-Deer-rinks-well-equipped-avoid-ammonia-emergencies.
- "Hazmat Team Called to Community Centre for Ammonia Leak." British Columbia, 18 May 2018, bc.ctvnews.ca/hazmat-team-called-to-community-centre-for-ammonia-leak-1.3936281.
- Herridge, Paul. "Town of Marystown Working to Update Arena's Refrigeration System | The Telegram." *The Telegram*, The Telegram, 9 Nov. 2017, www.thetelegram.com/news/local/town-of-marystown-working-to-update-arenas-refrigeration-system-159968/.
- Herron, Elise. "Fatal Ammonia Accident at Ice Rink Sparks Safety Concerns." *AMMONIA21*, 11 Dec. 2017, ammonia21.com/articles/8013/fatal_ammonia_accident_at_ice_rink_sparks_safety_concerns.

Holtham, Brian E, and Paulette B Medal. "Fernie Memorial Arena Ammonia Leak." "PBHE's Response to Technical Safety BC's Report," Precision Blade Honing Enterprises Inc., 28 Aug. 2018, www.precisionblade.com/index.php/fernie/.

Karstens-Smith, Gemma. "Inspections, Training Needed to Prevent Ammonia Leaks at Ice Rinks: Experts | CBC News." *CBC News*, CBC News, 18 Mar. 2018, www.cbc.ca/news/canada/british-columbia/inspections-training-needed-to-prevent-ammonia-leaks-at-ice-rinks-experts-1.4581642.

Labby, Bryan. "Canada Olympic Park Officials Won't Say How Much Ammonia It Uses for Sledding Tracks and Ice Rinks | CBC News." *CBC News*, CBC News, 8 Nov. 2017, www.cbc.ca/news/canada/calgary/ammonia-calgary-canada-olympic-park-1.4386671.

Lancaster, John. "He's among Hundreds of Workers Who Die Every Year, but Few Bosses Are Jailed for It | CBC News." *CBC News*, CBC News, 30 Nov. 2017, www.cbc.ca/news/canada/toronto/at-least-11-employers-sentenced-to-jail-for-safety-violations-in-ontario-figures-show-1.4424817.

Marshall, Korie. "Ammonia Leak Latest of Many in BC: Report." *TheRockyMountaingoat.com*, Rocky Mountain Goat, 4 Feb. 2015, www.therockymountaingoat.com/2015/02/ammonia-leak-latest-of-many-in-bc-report/.

"OLG Celebrates 40th Anniversary of WINTARIO with Support for Local Charities and TORONTO 2015 Pan Am Games Torch Relay." *Wintario Grants*, PRNewswire, 20 Dec. 2018, www.newswire.ca/news-releases/olg-celebrates-40th-anniversary-of-wintario-with-support-for-local-charities-and-toronto-2015-pan-am-games-torch-relay-517712891.html.

"Port Alice Closes Arena after Not Receiving Taxes from Pulp Mill." *CHEK*, 14 Aug. 2018, www.cheknews.ca/port-alice-closes-arena-after-not-receiving-taxes-from-pulp-mill-479218/.

"Risk of Ammonia Leak Means Goderich Memorial Arena Rink out of Commission | CBC News." *CBC News*, CBC News, 16 Aug. 2018, www.cbc.ca/news/canada/london/goderich-ontario-memorial-arena-ammonia-1.4786376.

"Safety Authority Inspector Confident with Ammonia Risk Safeguards in Sask. | CBC News." *CBC News*, CBC News, 24 Oct. 2017, www.cbc.ca/news/canada/saskatchewan/ammonia-leaks-sask-safeguards-1.4368932.

Sanders, Carol. "Rink Safety Sparks Concerns." *Winnipeg Free Press*, 16 Jan. 2018, www.winnipegfreepress.com/local/rink-safety-sparks-concerns-469481823.html.

Technical Safety BC. "Case Study: Ammonia Release Incidents (2007 – 2017)." *Ammonia Release Incidents*, Technical Safety BC, 2018, www.technicalsaftybc.ca/case-study-ammonia-release-incident-2007-2017.

Technical Safety BC. "Fernie Investigation Report, Findings and Recommendations." *Technical Safety BC*, 25 July 2018, www.technicalsaftybc.ca/fernieincident.

Technical Safety BC. "Investigation Report." *Investigation Report – July 25th/18*, Technical Safety BC, 25 July 2018, www.technicalsaftybc.ca/sites/default/files/2018-07/FaultTrees/TSBC_257671_InvestigationReport_v14_online.pdf.

Thomson, Jimmy. "WSCC Investigates Ammonia Leak That Led to Evacuation of Downtown Hay River | CBC News." *CBC News*, CBC News, 20 July 2016, www.cbc.ca/news/canada/north/wsc-cc-investigating-ammonia-leak-hay-river-1.3687340.

Trumpener, Betsy. "10 Years after Fatal Queen of the North Sinking, BC Ferries Safer Says CEO | CBC News." *CBC News*, CBC News, 22 Mar. 2016, www.cbc.ca/news/canada/british-columbia/queen-of-the-north-sank-10-years-ago-1.3502270.

Turner, Randy. *Heartbeat of a Small Town*. Winnipeg Free Press, 20 Feb. 2016, www.winnipegfreepress.com/local/heartbeat-of-a-small-town-369436862.html.

Scrivener, Greg. "Appendix A." Appendix to the Investigation Report by Technical Safety BC, Technical Safety BC, 17 Oct. 2017, www.technicalsaftybc.ca/sites/default/files/Appendices_withAppendixE_LowRes.pdf.

Workers' Compensation Board of B.C. "Request for Access to Records (Form 11M7)." Freedom of Information and Protection of Privacy Office, WorkSafeBC, Jan. 2014, www.worksafebc.com/en/resources/health-care-providers/forms/request-for-access-to-records-form-11m7?lang=en.

WorkSafeBC. "Apply for Coverage." Liability Insurance to Public and Private Businesses, WorkSafeBC, 2018, www.worksafebc.com/en/insurance/apply-for-coverage.

WorkSafeBC. "Fernie Memorial Arena Incident Animation." YouTube, WorkSafeBC, 29 Aug. 2018, www.youtube.com/watch?v=BBxzXKRSjsc.