# FOREST () SAFETY News

# Ken Higginbotham retires as Chair of the BCFSC



Ken Higginbotham.

Ken Higginbotham shared the news at the end of December 2017 that he had decided to retire as Chair of the BC Forest Safety Council (BCFSC) and as facilitator for both the Coast Harvesting Advisory Group (CHAG) focused on coastal logging safety and the Manufacturing Advisory Group (MAG), focused on sawmill safety across the province.

"I just passed my 72nd birthday and it seems like the right thing for me to do at this point after 43 years in forestry," explained Ken who has been a force in forestry in both Alberta and BC for many years.

"Before I sail into the sunset, though, I wanted to express my thanks for having had the chance to work with industry, WorkSafeBC and the provincial government over the past few years to help support better safety outcomes for all," he said.

## Significant strides in safety

"I would like to believe that the forest industry and WorkSafeBC have made significant strides together in improving safety outcomes for a broad range of workers in our province's forest industry. The 2012 sawmill explosions were a tragic event that industry learned from, stimulating a focus in both harvesting and manufacturing to make workplaces ever more safe," said Ken.

Reflecting back over the last several years, Ken said he has been particularly impressed with the fact that industry and the regulator have been able to effectively collaborate in important ways.

"I certainly hope that this will continue, as we all share one focus: to help get every worker home safe at the end of the day," he said.

Ken became board chair of the BCFSC on October 1, 2015, succeeding Reynold Hert who had been both Chair and CEO of the organization at that time.

"We are still in process of choosing replacements for me as facilitator for MAG and CHAG; and as Chair of the BCFSC. I am confident that excellent processes are in place to get the right people into those roles," said Ken. In the interim, the BCFSC's vice chair, Reid Hedlund, will fulfill chair duties for the BCFSC board of directors. Reid is also chair of the Interior Logging Association and was a member of the Forest Safety Task Force, having chaired the Forest Industry Safety Association from 1999 to 2004. Reid has been a logging owner-operator since 1979.

## Industry commitment to safety is strong

"When safety comes first production and outstanding performance will follow. Industry needs to continue its unwavering commitment to reducing fatalities. I am confident that with the continued commitment of industry CEOs to this quest – at both large and small companies as well as at the senior levels of WorkSafeBC – industry will secure

## Safety is Good Business

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Welcome to the February edition of Forest Safety News, covering news about safety topics in forestry. This is YOUR safety newsletter. We look forward to your input and feedback! Email the editor at **editor@ bcforestsafe.org** or call 1-877-741-1060.

continuous improvement in safety and operational performance. Safety really is good business.

"Finally, to everyone I have got to meet and work with over the years: thank you for your commitment to safety and to the genuine friendships that have developed over time. I will cherish them all," said Ken.

## Ken has left us in a strong position

"Ken has left us in a much stronger position thanks to his steady, considered, trusted and respectful leadership," said Rob Moonen, BCFSC CEO. "Ken's contributions to furthering safety in forest harvesting and manufacturing in BC are significant in no small part due to his ability to build consensus and develop long-term relationships with key stakeholders and influencers. We wish Ken a wonderful retirement," said Rob.

Since 1974, Ken has had roles in forestry education including as acting assistant professor of Botany at University of North Carolina and assistant professor and associate professor of forestry at University of Alberta. He also served as Assistant Deputy Minister of Forests for the Alberta Government and was subsequently vice president of forestry for Canfor (1995 – 2012) before becoming a consultant to forestry operations for the past five years. Ken has BS/MS degrees in forestry from Utah State University and a Ph.D. in Botany from Duke University. **(** 



## Woodlot Licence and Community Forest Agreement Safety Committee finalize new safety resources

The Woodlot Licence and Community Forest Agreement Safety Committee (WLCFASC) has recently developed a set of documents to help support woodlot licensees, community forest agreement holders and other industry members meet their safety due diligence and safety responsibilities.

The documents provide a single page (letter size and 11x17 versions are available) of who is responsible for what and how to ensure that the safety needs and requirements of workers, volunteers,

## 125 professionals attended Construction Initiated Slides Working Group seminars

Three four-hour seminar sessions were presented by the Construction Initiated Slides Working Group (CISWG) in Port McNeill, Campbell River and Nanaimo in November 2017 for professionals involved in assessments, development of plans and supervision for resource road construction, deactivation and reactivation. The objective was to support improved safety outcomes and enhance the understanding of:

- Contributing factors to Construction Initiated Slides (CIS)
- Field indicators relating to potential slope instability
- Road construction plans/maps/designs
- Management practices that aid in the avoidance/elimination of CIS.

The Coast Harvesting Advisory Group (CHAG) helped promote the seminars among their employees and contractors, emphasizing that it was required training. The CISWG was formed in 2014 as a sub working group of CHAG to examine landslides that are caused by road construction activities; and explore how best to support preventing similar incidents in the future.



**Forest** 

Keep the Woods Safe

Excavator in a construction initiated slide.



Pistol butt trees, indicating slope instability.

Following the 2016 release by the CISWG of an information awareness package for road construction crews, supervisors and workers, the safety working group finalized the following materials in 2017:

### SAFETY IS GOOD BUSINESS



- Awareness package for forestry professionals involved in the planning, and development of resource roads
- Construction Initiated Slides (CIS) awareness video: https://www.youtube.com/ watch?v=wkomehXg16M and
- 3. The first in a series of CIS awareness posters:



All of the CISWG information and training materials are accessible via the following link: http://www.bcforestsafe.org/node/2713. If you have questions or would like to learn more, please contact Dustin Meierhofer at meierhofer@bcforestsafe.org or call toll-free 1-877-741-1060. visitors and learners who may be active within woodlots and community forests are properly addressed. Woodlots and community forests are great places for visitors to learn about forest management or hike and ski, and for volunteers to participate in productive projects. However, as a licence holder, one has specific safety responsibilities for workers, volunteers, visitors and learners, and liabilities if an injury occurs.

Another poster identifies the different roles and responsibilities for work that occurs on a community forest or woodlot licence area. One can have more than one set of responsibilities, e.g. one might be both the owner and the employer.

You may view or download the posters at the following links:

Do your due diligence: https://www. bcforestsafe.org/files/Licensee%20 Liabilities%20poster%20lg.pdf

Know your responsibilities: https://www. bcforestsafe.org/files/Woodlot%20 Safety%20Responsibilities%20Ig.pdf

## FPInnovations and the BCFSC team up to help improve feller buncher safety



A 2005 feller buncher. Photo courtesy of http:// www.ritchiewiki. com/wiki/index. php/Feller\_Buncher

FPInnovations and the BC Forest Safety Council (BCFSC) have teamed up to complete a six-month review and analysis project with the objective to secure practical recommendations for improved feller buncher safety, especially in roll-overs. The funding for this project is being provided by WorkSafeBC.

## Feller bunchers have high fire risk

Compared to other mobile industrial machines, forestry's feller bunchers are the most at risk of being damaged or destroyed by fire. This is because these machines work in the midst of airborne forest debris or ground vegetation that falls or is kicked up by the felling saw. Needles, leaves, twigs and chips can become trapped inside the machine's engine, cooling and hydraulic compartments. If this debris is left, possibly also absorbing slow leaking hydraulic oil or diesel fuel, and held near the high



The WLCFASC has also produced a multi-page post wildfire operational safety bulletin which you may view and download here: https://www.bcforestsafe.org/files/ PostWildfireBulletinWLCFASC.pdf (%)

temperatures generated by the machine, the heightened risk of fire is easy to understand. The risk of fire is further increased by these factors during machine roll-overs.

Given several recent serious incidents (see story right), industry wanted to explore more effective ways to improve feller buncher safety in general and in roll-overs specifically with a focus on escape exits and fire suppression systems. Launched last month, the project should wrap up at the end of June 2018.

## Recommendations and best practices

The project includes a review of recent feller buncher roll-over incidents regarding egress and fires; looking at different cab designs; egress methods; and, fire suppression systems. Consultation with all the major equipment manufacturers will take place to discuss criteria for design and potential technical improvements, with attention being directed to different roll-over scenarios. Additional consultation with fire suppression system suppliers will also take place. Recommendations will then be developed.

The project report, which will summarize the findings, recommendations for further development and study, and industry best practices, will be shared broadly with industry stakeholders in the second half of this year. A follow-up story will appear in a future edition of Forest Safety News. (\*) Working to make remote mechanized logging safer with a focus on emergency preparedness for egress and response



By Budd Phillips, Manager, Prevention Field Services, WorkSafeBC

On October 18, 2017, a logger was killed in a tragic incident near Mackenzie, in northern B.C. While using a feller buncher to cut timber on a slope, the machine tipped over backwards, leaving the operator no escape route when the machine caught fire. His death was devastating for his family, his community and his coworkers.

While the cause of the incident is still under investigation by WorkSafeBC, the question arises: What can we do now to try to prevent this happening again? That was one of the key issues discussed when WorkSafeBC's Forest Industry Advisory Group met in November 2017 to talk about concrete steps employers can take to make remote mechanized logging safer.

## Effective plan must be in place for workers who work alone

First, it's critical that employers have an effective plan in place for those who work alone. The worker must designate a contact person to check in with on a regular, agreed-upon schedule. The worker must always carry a functioning communication device – a satellite phone, cell phone, two-way radio or satellite transceiver – as well as the check-in contact information.

The designated contact must have a copy of the working-alone procedure and any applicable emergency-response plan, contact information, locations and/or maps that may be necessary for a rescue. Every check-in call must be recorded, and if the worker fails to check in, the contact must initiate search procedures as outlined in the plan, be that rendering assistance personally or contacting someone close by who is trained, equipped, and able to assist.

#### Continued on page 4...



Continued from page 3...

## Hazard assessment must include potential roll-overs

Second, employers should consider situations in which their machines have the potential to roll over, and particular hazards that may result. In recent years, the changing landscape of logging operations has meant an increase in the use of steep-slope harvesting equipment. Employers, suppliers, and manufacturers must ensure their mobile equipment meets the requirements outlined in the *Workers Compensation Act* and Parts **16** and **26** of the Occupational Health and Safety Regulation.

That includes ensuring mobile equipment weighing 700 kg or more has a rollover protective structure (ROP), as well as structures that guard against falling, flying or intruding objects or materials. Similarly, any tools carried inside the cab need to be secured so as not to create additional hazards.

Should a roll-over happen, the employer needs to consider: Do they have the equipment necessary to respond in such an emergency? And is it easily accessible and transportable to the work site? During a rescue, minutes saved can potentially save a life.

### Alternate means of escape must be available

Third, every piece of mobile equipment must have an alternate means of escape that is clearly marked both inside and outside the cab. The exit must not be located on the same surface as the cab door; be usable at all times; not pose additional hazards; be openable from inside or out without tools when the equipment is in use; and provide a clear opening with dimensions that comply with the relevant ISO Standard.

The employer should test the alternate exit regularly, and train workers to be familiar with its location and operation, as well as ensure they can fit comfortably through it in an emergency physical fitness or size may be obstacles to a quick escape. If the backup exit is blocked and/or the worker is unable to move, employers must consider what tools could be used to extricate a trapped worker.

The fact that machines are designed to keep hazards out poses a particular challenge: Specialized cutters might be needed to pierce cab windows. And a supplementary fire extinguisher for use by the rescue crew should always be within reach.

### Rescue equipment must be easily accessible

Finally, consider where this rescue equipment might be stored; ideally it will be attached to the machine itself for ease of access.

For more information on these prevention measures, please see the following resources:

Working Alone or in Isolation Safe-Work Procedure and Checklist (BC Forest Safety Council): https://www.bcforestsafe. org/files/swp\_xWorkingAloneOrInIsolationSafeWorkProcedure AndChecklist.pdf

Working Alone: A Handbook for Small Business (WorkSafeBC): https://www.worksafebc.com/en/resources/health-safety/ books-guides/working-alone-a-handbook-for-smallbusiness?lang=en

#### Requirements for Mobile Logging Equipment in B.C.

(WorkSafeBC): https://www.worksafebc.com/en/resources/ health-safety/information-sheets/requirements-for-mobilelogging-equipment-in-bc?lang=en @

# Steep slope harvesting calculator to be developed

The BC Forest Safety Council (BCFSC) has successfully secured grant funding from WorkSafeBC to work with FPInnovations to assist industry to develop a calculator tool to determine safe operating limits on steep slopes, based on machine type, weight, winch-assist tension and traction coefficient.

It is estimated that there were about 50 steep slope winch-assist systems operating in forestry in BC last year – a rapid adoption rate given there was just one machine operating in 2014. Safety is the key focus for implementing mechanized harvesting, based on injury rates. Mechanized tree falling had an injury rate of 2.1 compared to manual true falling at 27.3 in 2016. Caution, however, is critical with any new technology and variable terrain. With experience comes more knowledge as to the factors that lead to loss of traction and stability.

Most of the calculations derive from physics, but values for coefficient of traction must be measured in the field in BC soil conditions. The BCFSC will work with FPInnovations to support the collection of this data which will then allow for the development of the new tool. Once completed the calculator tool will help machine operators and planners make the best decisions about safe working practices for the specific slope and site conditions where harvesting is planned.

The project runs until September 2018. An update will be shared in a future edition of Forest Safety News. (4)

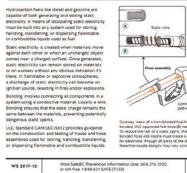
## WorkSafeBC bulletin on fire and explosion hazards of non-bonded fuel hoses

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#### Non-bonded fuel hoses create fire and explosion hazards

Since 2014, two workers in B.C. have been seriovaly injured in flash fires linked to non-bonded fuel hoses (La, hoses that cannot dissipate static electricity). In the second incider, the vortan's injuries were fast. This butchin explains the hazards. It is our aim to ensure that everyone involved in the strange, transportation, delivery, and transfer of flau undersite that fuel hoses must be adopturely bonded and should be designed to meet the requirements of ULC Stendard CAHUUC-5612 for dispating static detricity.



Screenshot of WorkSafeBC's 2-page bulletin on non-bonded fuel hoses.

If you have a fuel tank on the back of the crummy or truck; or refuel on worksites, always regularly inspect hoses and ensure that they are bonded to help prevent fire and explosion hazards. To learn more, please see WorkSafeBC's latest safety bulletin here: https://www.worksafebc. com/en/resources/healthsafety/hazard-alerts/ non-bonded-fuel-hosescreate-fire-explosionhazards?lang=en. Within the pdf on page 2, you can find links to additional resources. 🖇

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# Fatalities and Injuries

## 10 workers died in forest harvesting and two in manufacturing in 2017

 30 died at work or as a result of work in harvesting activities in the past three years

### Fatalities in harvesting in 2017

December 29, 2017: A log truck driver died near Fort St. James, at about 5 am, when his loaded log truck went off the road after colliding with an unloaded log truck that had spun out on a hill. The resource road conditions were reported as icy at the time. See: http://www.bcforestsafe.org/ node/3059

November 15, 2017: A log truck driver died near Lake Cowichan when his empty log truck rounded a turn and ran into an area of the road that had been eroded by heavy rains. The truck veered into standing water and was completely submerged. The driver was unable to escape from the cab. See: http://www.bcforestsafe.org/node/3040

October 16, 2017: A feller buncher operator died after his machine rolled over and caught fire on the Finlay Forest Service Road, north of Prince George. See: http://www.bcforestsafe.org/node/3026

October 13, 2017: A forestry worker died in hospital after his north-bound pickup left the Babine Lake Road, north of Smithers, and rolled over early in the morning. Road conditions were icy. See http://www.bcforestsafe.org/node/3029

April 20, 2017: Three workers were killed and two injured when rail cars were being loaded with logs in Woss, Vancouver Island. 10 of the loaded cars rolled about three kilometres down a grade. The loaded cars struck a section crew's vehicle (speeder) carrying five workers who were performing maintenance on the tracks. See: http:// www.bcforestsafe.org/node/2957

February 16, 2017: A log truck driver died at the scene after his fully loaded log truck left the icecovered road and rolled over, about 90 km north of Fort St. John. See http://www.bcforestsafe.org/ node/2932

February 10, 2017: A log truck driver died at the scene of a multi vehicle incident involving three log trucks and a passenger vehicle near Fort St James. See: http://www.bcforestsafe.org/node/2928

**February 4, 2017:** A certified faller was struck and pinned by a 20-inch- diameter cedar tree that uprooted and fell shortly after the faller had felled an adjacent cedar tree in Woods Lagoon. See http://www.bcforestsafe.org/node/2919

### Fatalities in manufacturing in 2017

January 30, 2017: A worker was operating a boom boat at a Kelowna sawmill when it suddenly sunk. The operator was later located within the cabin of the sunken boom boat. See http://www. bcforestsafe.org/node/2914

January 27, 2017: A maintenance worker died at a Lumby yard (CU714037 – Wooden Post or Pole Manufacture). See http://www.bcforestsafe.org/ node/2916 @

## Recent work-related incidents reported to WorkSafeBC

These summaries of selected work-related incidents recently reported to WorkSafeBC may help you to prevent similar incidents.

#### HARVESTING

Injury Type: Multiple injuries Core Activity: Cable or hi-lead logging Location: Vancouver Island/Coastal B.C. Date of Incident: 2017-Dec

An operator was using a log loader to move a log when the outside of the road failed, causing the machine to roll down a steep bank. The operator was ejected part-way down and the machine came to rest in a gully 200 feet from the road.

#### Injury Type: Close call

**Core Activity:** Ground skidding, horse logging, or log loading

Location: Vancouver Island/Coastal B.C. Date of Incident: 2017-Nov

A log loader was forwarding wood to a roadside. The operator tried to pull a stump out of the ground with the grapple. The grapple slipped off the stump, causing the log loader to roll over. The operator was wearing a seat belt and was not injured.

Injury Type: Fractured ribs, soft tissue injuries Core Activity: Mechanized tree falling Location: Vancouver Island/Coastal B.C. Date of Incident: 2017-Nov

A worker was repositioning a non-tethered fellerbuncher machine on a 52 percent slope. The machine slid 15 feet and flipped onto its side. A stump breached the guarding and struck the worker. The worker was taken to hospital by the on-site emergency transport vehicle (ETV).

#### Injury Type: Lacerated head

Core Activity: Logging road construction or maintenance / Excavator operation Location: Vancouver Island/Coastal B.C. Date of Incident: 2017-Nov

A worker operating an excavator was placing rip rap (large rocks) on the bottom side of a resource road. The excavator became unstable and slid about 150 feet down the hill, rolling over twice. It came to rest upside down beside a creek. The operator, who was wearing a seat belt, climbed to the road and was transported to hospital.

Injury Type: Contusions to head Core Activity: Integrated forest management Location: Northern B.C. Date of Incident: 2017-Oct

A log processor, travelling down a slope in a ravine, rolled over and caught fire. The operator was able to release the seat belt and get out of the cab through the rear window emergency exit.

Injury Type: Internal injuries, fractures Core Activity: Integrated forest management / Log hauling

## Location: Northern B.C.

**Date of Incident:** 2017-Oct A worker was bucking a log from a loaded log transporter. A portion of the log, which had shifted during transport, struck the worker.

#### Injury Type: Fatal

**Core Activity:** Mechanized tree falling **Location:** Northern B.C.

#### Date of Incident: 2017-Oct

A worker was operating a feller-buncher (harvester used in logging) on a slope, cutting timber at the boundary of a cut block, when the machine fell over backward. A fire ensued and the operator was unable to escape.

#### Injury Type: Fatal

Core Activity: Integrated forest management

#### FATALITIES WORKERS KILLED ON THE JOB 14 00000000 00000000 00000 00000 25 25 0000 20 0000 **VVVVV** 15 10 5

The data (above) for 2016 is based on WorkSafeBC accepted claims and incidents that the BCFSC is aware of that happened in 2016. Please note that this is preliminary harvesting data. \*There were 4 fatalities the BCFSC is aware of that occurred in 2014 and 8 fatalities that occurred in 2015. WorkSafeBC tracks fatalities by the year in which they accept the claim. The BCFSC uses the WorkSafeBC data of accepted claims for trends as it is the only long-term data base for comparative purposes.

#### Location: Northern B.C. Date of Incident: 2017-OcT

A worker driving a company pickup truck to work on a gravel road lost control of the vehicle. The vehicle left the road, entered a ditch, and rolled over. The driver was ejected from the vehicle. A passing log transporter operator stopped and called 911. The worker received first aid at the scene and was transported to hospital, but later succumbed to his injuries.

Injury Type: Laceration and abrasions to upper body Core Activity: Log hauling

## Location: Northern B.C.

Date of Incident: 2017-Sep

The driver of a logging truck was adjusting the wrappers when he was struck by a 16-foot log that fell off the top of the load.

Injury Type: Laceration to head

Core Activity: Cable or hi-lead logging

Location: Vancouver Island/Coastal B.C.

Date of Incident: 2017-Aug

A young worker throwing a section of small-diameter steel rope (straw line) over a suspended hemlock log lost balance and fell about 15 feet down a steep slope.

#### MANUFACTURING

Injury Type: Injuries to hand Core Activity: Sawmill

Location: Northern B.C.

Date of Incident: 2017-Nov

A sawmill worker was clearing a blocked photo eye on a canter line outfeed. The worker locked out and test-started the machine. The worker entered the spline removal area of the canter and saw a piece of wood near the spline remover. The worker reached in to remove the piece of wood and his hand was caught by the still-rotating canter head.

Injury Type: Smoke inhalation (4 workers) Core Activity: Sawmill

#### Location: Interior B.C.

Date of Incident: 2017-Nov

A fire broke out from a sawmill's filing room ceiling and spread to two exterior walls of the facility. The mill was evacuated.

Injury Type: Injuries to leg Core Activity: Sawmill Location: Lower Mainland Date of Incident: 2017-Nov A young worker was crossing over a waste conveyor

that was equipped with a small cover to facilitate combustible dust removal with a wheelbarrow. The worker was caught between the conveyor and the cover.

Injury Type: Lacerated hand Core Activity: Sawmill

#### Location: Interior B.C.

Date of Incident: 2017-Sep

As a young worker was operating a 12-inch trim saw, one of the worker's hands contacted the rotating blade.  $\textcircled{\sc op}$ 

# SAFE Companies

## Talkin' SAFEty with Mike Sexton:

# Using a Corrective Action Log (CAL) as a valuable tool



Mike Sexton, senior safety advisor.

### What is a CAL?

A Corrective Action Log (CAL) is a living, working document that tracks things that need to be fixed and/or improved. It is a very important tool for every company to have and to use. A CAL can be in electronic form, or tracked on paper. Some companies even use a White Board (but be careful that items aren't erased by mistake).

#### Where do I find my CAL?

Every year, the BC Forest Safety Council (BCFSC) will send a CAL back to SEBASE/ ISEBASE/IOO companies with the audit success letter, itemizing any deficiencies in the audit. BASE size companies have their CAL included within their audit report.

#### What good does a CAL do?

Well, to start with, a CAL tracks things that need to be fixed. The CAL from your audit reminds you about the ways to improve your safety systems. And, you can add things to it as you go. A Close Call or Incident Investigation should have Corrective Actions. Put them on your CAL so you remember to do them. A CAL can also be a reminder for upcoming services or preventative maintenance. It might also be a good reminder to do your regular Worker or Site Inspections. As far as your next audit goes, it is also important. BASE companies are graded on how much of their CAL from the last audit has been completed. SEBASE and ISEBASE companies are given 1 point out of 24 for submitting their CAL from their last audit. While IOOs don't receive any direct points from their CAL, they will get points they missed the previous audit if they corrected what was missing.

One of industry's shared goals is continuous improvement in safety and CALs allow us to focus on the things that will help us get better at what we do, not only improving safety but performance too.

#### What else should I do with my CAL?

Posting your CAL for all your workers to see is a great practice. This helps to keep workers informed on what things are being improved or fixed. The more people who are aware of what items are planned to be completed by a certain date, the more likely they will be done on time. Closing the loop with workers on repairs or improvements they feel strongly about is also important and demonstrates safety commitment and shared responsibilities.

You should also use a format that states what the deficiency is, exactly what needs to be done to improve/fix it, who is responsible for the action, a date it will be completed by, and then the actual date it is checked as being completed. This is very important and needs to be specific. "In progress" or "As soon as possible" are not effective terms. A specific person or job title also must be used. Sometimes, if there is no one specifically responsible, a task may not get done because "somebody else was going to do it".

### Here is an example of a blank CAL:

Question	Item	Required Corrective Action	Person Responsible	By When	Completion Verified

A CAL is a very important and powerful tool. Please use it to your advantage. Safety is good business!

If you have any questions about the CAL or any other services, please contact any Safety Advisor at toll free **1-800-741-1060** or **1-250-741-1060**.

## New regulations for steel storage racks



By Martin Ridgway, CRSP, senior safety advisor.

On January 1, 2018, a new regulation came into effect in BC governing the installation, inspection, use and maintenance of steel storage racks. These regulations (Reg 4.43.1) apply to any steel storage racking (other than retail display) that is:

- 8ft tall or taller, as measured from the floor to the top of the highest shelf level or
- Any height if machinery is used to load or unload the shelving.

In forestry and related workplaces, this is probably most of your heavy duty racking. The regulations have two main areas: proper assembly to help make sure the racking is suitable for what you want to use it for and proper ongoing inspections to help make sure it stays that way. It also covers disassembly for when you want to move or change the layout.

Only qualified people are allowed to install or uninstall racking or parts of racking. There is a guideline associated with the regulation describing what qualified is. An important outcome is that the qualifications required to replace a damaged beam with exactly the same new part may be different and lower than the qualifications required for someone to install a whole new racking system from the ground up. Mixing and matching uprights and beams (and other parts) from different manufacturers just because they fit is not permitted unless both manufacturers permit the combination. Most companies probably will not have a person qualified to assemble racking from scratch but many will have people who either are qualified or soon can become qualified to replace some portions of racking for repairs.

The manufacturer's instructions for loading, unloading and maintaining the racking must be readily available to workers in the workplace, and must be followed. These can often be obtained online or from the supplier of your racking and then kept in your building. Finding who the manufacturer is can often be the first challenge for old racking.

The rated capacity of the racking must be clearly posted near the racking. While it is common to mark the capacity on every beam, if all bays are the same in a row or room, posting the capacity once is sufficient. It becomes more complicated and important if there are different capacities of racking in the facility / room. Overloading the racking is prohibited, for any combination of bay, level, stack or system.

Any modification to the racking must be done following the manufacturer's or an engineer's instructions. This includes changing the heights or number of horizontal beams.

The racking must have written regular inspections, by a qualified person, at intervals that will prevent the development of unsafe working conditions. The intervals are not specific, but starting with the manufacturer's instructions is a good idea. High traffic, high load weight racking should be inspected more often (and possibly even daily) than the racks used for storing old spare parts that are kept 'just in case' (that might only be inspected a few times a year). All of the racking system must be inspected for wear. corrosion, damage, missing or incompatible parts, and signs of fatigue, which includes measuring any lean or deflection. While each manufacturer has different written specifications, if you can see a dent, it's generally a bad sign. Also if one beam or

other part of the racking is a different paint colour than the rest, that also is usually a bad sign.

The guideline also includes a long description of what a qualified inspector must be able to do. While not trivial, most companies should have an employee who either meets requirements already or who can quickly become able to meet the requirements.

Regular maintenance must be done to address damage, corrosion, missing parts and incompatible parts, all in accordance with the specifications and instructions of the manufacturer or a professional engineer.

There is no statement in the regulation about grandfathering, so if you have racking already, you have new inspection and maintenance requirements at the very least.

For additional information, please consult WorkSafeBC, your local Occupational Safety Officer or the WorkSafeBC web site at: https://www.worksafebc.com/en/healthsafety/tools-machinery-equipment/storageracks @

## A New Year's Resolution – not to kill people

#### By Martin Ridgway

Many of us made New Year's resolutions last month. Lose weight, stop smoking, drink less, be happier are among the common promises made. I made one not to kill people, renewing my commitment to walk the safety talk.

You would think that would be pretty easy to meet, because to the best of my knowledge, I haven't killed anyone in my first 50 years. But it's not that easy. Part of the reason is that the goal, although worthy, has no details or plans. A goal of losing weight for example, does not just magically get met. It has a whole bunch of background behind it, some of which can be general, such as not eating potatoes with all three meals a day and some of which can be very specific such as a certain number of system points per meal and per day. Not killing people has an even more complex process, mostly in the very boring background. How I am not going to kill anyone isn't easy, fun or glamorous:

- I am always going to do an honest walk-around of the truck before I drive it for the day, even if it is stupid-bad weather and I am already late.
- I am always going to ask for an orientation to the site or project that I am going to, even if no one else did and the people on site wanted me working half an hour ago.
- I am always going to stop and speak up about things that hit any of my personal 3 D's
  of Dumb, Dangerous or Different, even if I end up being wrong or it's only dangerous
  to me because I don't yet know how to do it right. I am always going to actively help
  people from rookies to veterans not hurt themselves while respecting that they are
  the ones actually doing the hard work.
- I am always going to speak up when I screw up. I have no illusions of being perfect and some of what I try won't end up working. Only by reporting, investigating fully and correcting the problems can I avoid repeating the same mistakes again and again.
- I am going to have faith that numbers don't lie. If my goal was to kill someone, it would be easy to measure exactly who that was at the end of the year. Not killing someone is all about probabilities and reducing risk.

Some may say that I am giving all of you reading this a lot of power over me as I expose myself by putting this out there. I prefer to think that I am putting it out there to get your help in meeting my goal. Because I can't help thinking that if we all recommit to walking the safety talk, we can and will save lives.

## Reminder on BC Timber Sales requirements for SAFE Certification

Any party wishing to bid on a timber sale license must ensure that they meet the appropriate safety requirements as specified in every timber sale license package.

#### For example:

The licensee must ensure, prior to commencing activities on the cutting authority area, and throughout the term of this licence,

- That all individuals, corporations or partnerships who provide direction to workers or contractors on or in relation to the cutting authority, and on or in relation to the area described in Exhibit "A" to the Road Permit issue to the holder of this Licence, are
  - i. certified in the BC Forest Safety Council SAFE Company program as an independent small employer
  - ii. endorsed by the BC Forest Safety Council SAFE Company program as a new entrant to the industry, or
  - certified under another safety certification scheme recognized by the BC Forest Safety Council or BC Timber Sales, or
  - iv. work for an employer who satisfies the qualifications in clauses (i), (ii), and (iii) above, and
- b. That an individual, corporation or partnership does not provide direction on or in relation to the areas described in this paragraph unless the required certification or endorsement referred to in this paragraph is maintained and in good standing.

The licensee will keep a list of the names of employers or parties directing works on the area described above. That list must include:

- i. the names of each employer or firm as it is registered with WorkSafeBC, and
- the certification status of each employer or firm with the BC Forest Safety Council SAFE Company program or other recognized safety certification schemes, and

the Licensee, upon request, will provide a copy of that list to the Timber Sales manager.

If you have any questions, please contact your nearest BCTS area office.  $\textcircled{\sc 0}$ 



Continued from page 7...

## 35 companies converted to SAFE in 2017

A total of 35 companies used a preapproved conversion process to achieve SAFE Certification in 2017, with the majority of companies (33) coming from the BC Construction Safety Alliance (BCCSA). Of these companies, 25 were small employers and eight were large employers. Two large employers converted to SAFE from Energy Safety Canada (ESC) (formerly Enform).

The conversion process is available to any company with WorkSafeBC Certificate of Recognition (COR) Certification already in place through BCCSA, ESC or SafetyDriven.

These companies may obtain SAFE Certification as long as the company does not:

- Have a forestry aligned WorkSafeBC classification or
- Want a forestry COR certification in addition to their construction, oil and gas or trucking COR certification.

Conversion involves a supervisory person taking an online Forestry Safety Overview course and the employer completing a SAFE Conversion submission that includes a quality assurance letter from BCCSA, ESC or SafetyDriven. For large employers, the COR auditor needs to complete two to eight additional BASE questions in conjunction with the COR audit. The COR auditor will also need additional training for the BASE questions unless they are already a BC Forest Safety Council certified BASE auditor. Large employer auditor training is available online. See http://www.bcforestsafe.org/ node/2388.

The intent of the conversion program is to help ensure a level playing field for bidding on forestry contracts in BC and support safe outcomes for all industry participants.



The following article by Trish Kohorst is reprinted here with the permission of the Truck Loggers Association. The original article appeared in the Winter 2018 edition of Truck LoggerBC. Please see http://www. tla.ca/sites/default/files/truckloggerbc\_ winter\_2018\_final\_lores.pdf

## Professional Log Truck Driver Competency Program – Created by Log Truck Drivers

As the Professional Log Truck Driver Competency Program is piloted in British Columbia, some important questions are being asked by contractors, log truck drivers and industry associations. For any safety initiative to be successful, the people who are directly affected need to understand why the initiative is taking place, how it will affect them (and what is expected from them) and they need to trust that the initiative is something that is meaningful.

## Why did contractors build the program?

Dave Barden, owner of Barden Contracting Ltd., and a member of the Log Truck Technical Advisory Committee (LTTAC) said: "In the late 1980s it became unfashionable and even demeaning to be in the trade industry. Silicon Valley and the Tech World was the way of the future. Couple that with kids watching their Dads come home tired, late and discouraged, and Dads telling their kids 'Go get an education and stay out of the bush,' and it is no wonder that we lost a generation of workers in our Industry."

Barden became involved in 2005-2008 with the log hauling champion, MaryAnne Arcand (now deceased) and numerous others who were concerned about safety, public reputation, and winning back people to the log hauling industry. More recently, LTTAC was formed to focus on these concerns. "There was much skepticism in the industry and the public alike that nothing could or would be done. But with a lot of work from a lot of dedicated people I honestly believe that we can and are accomplishing what we set out to do. We desperately need young, skilled people back in the industry and with this log truck program we have developed I think we can provide a base where someone can be proud once again to say 'I'm a log truck driver'," said Barden.

Peter Bueckert of J. Bueckert Logging Ltd., and also a member of the LTTAC, was similarly motivated to get involved in the program: "I saw the erosion of the professionalism of the drivers. I felt we needed a consistent message about driver expectations. I know firsthand the knowledge and experience of the people developing the program and with the passion these people have for our industry this program was the best one in the world to make a difference."

## What's in the program?

The program is based on the identification of the skills, knowledge and attributes (occupational competencies) that are required to be a successful, safe log hauling professional.

Ron Volansky, Principal of R&A Logging Ltd. based in the Kootenays, worked as a subject matter expert on the development of the training and said: "I tried to have input

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that would be understandable across BC as different regions have different challenges and logging language. My goal was to create a program that would recognize workers' capabilities and strengthen the areas that they are weak in; provide the driver with the basic concepts of safety, knowledge and ability to do the task at hand; and, to create documentation that is standard across BC and can be provided to an employer as a transcript of driver qualifications."

### How is the program being used?

In addition to providing a training standard for industry to train new drivers, the program is also being used to recognize the competency of experienced drivers or identifying any gaps in knowledge, skills or attributes that may have gone unrecognized.

Bueckert is using the program to train drivers and has been impressed with the results. "Not only does the driver have a solid base of training for our industry; the assessment identifies the gaps and I know where I need to focus my time, making training much more efficient. This will bring the professionalism back into our industry," he said.

Volansky explained: "The trucker competency program will create a tool that can make the hiring process easier. The transcript will provide me with a detailed ability of the worker and eliminate the overlapping of training, because it provides me with documentation of past experience and creates an avenue for me as the employer to continue training the worker."

The standardized tools are currently paper based for the pilot program but will be made available electronically post pilot with training modules. Tools include a competency conversation and a practical assessment tool to measure an individuals' ability to operate the log truck safely to meet the competency requirements. A safety critical competency conversation and the practical assessment are used to assess experienced log haulers. The assessments are conducted by professional log truck drivers who have been selected through a review process and have successfully completed assessor training.

## No action required unless you want to be part of a pilot

There has been significant interest in the program with assessments currently underway in the Kootenays, Northwest Coastal, the Interior and on Vancouver Island. The pilot phase started October 12, 2017 and will continue through October 2018. Contractors, log truck drivers, trainers, assessors and licensees will provide feedback to help shape the final program. While the program is in its early pilot stage—and was developed as a guideline-many are already saying that this guideline could become a benchmark.

If you have questions regarding the program, or would like to participate in a pilot, please contact me at 250-562-3215 or email tkohorst@bcforestsafe.org. Trish Kohorst, RFT, is the Transportation Safety Manager for the BC Forest Safety Council and works out of the Prince George office.

## Preparing for night shift:

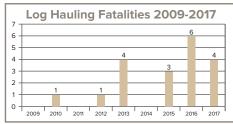
## TAG working on organizational strategies to reduce fatigue during night duties

The Trucking and Harvesting Advisory Group (TAG) is in the process of developing best practice guidelines for fatigue management with the objective of reducing the risk of fatigue related incidents. The guidelines are being developed in consultation with experts in fatigue science and the drivers themselves, as well as in context of a review of international practices and other research.

The idea is that all industry members can benefit from the shared knowledge and consider implementation of the practices, tailoring them as needed to best suit their operations.

The following tips are provided to help fight fatigue for all workers and who are preparing for night shifts:

## 10 log haulers have died in work related incidents in the past two year years



\*The above data is current to January 10th 2018. These incidents have been collected by the BCFSC with the help of WorkSafeBC, CVSE, Licensees and media reports.

Four log truck drivers died in work related incidents in 2017, down from six in 2016. The most recent two log truck drivers died while hauling, in November and December 2017 respectively. These incidents occurred in separate regions of the province, one near Lake Cowichan on Vancouver Island and one near Fort St. James in the northern interior.

See: http://www.princegeorgecitizen.com/ news/local-news/logging-truck-driverkilled-near-fort-st-james-1.23137519 (Fort St. James fatality) and https://www.cheknews. ca/funeral-held-logging-truck-driver-ianfraser-391335/ (Lake Cowichan fatality). (See the Fatalities and Injuries section on page 5 for links to the respective safety alerts for both of these incidents.)

In addition, two members of the public died in two separate incidents in December 2017, after one vehicle crossed into the path of a log truck and another vehicle rear-ended a log truck.

For more information on these incidents, see: Dec 13, 2017: driver killed in head-on collision with logging truck on Highway 3, near Midway in the Kootenays: http:// vancouversun.com/news/local-news/ driver-killed-in-head-on-collision-withlogging-truck-in-the-kootenays

Dec 14, 2017: logging truck was stopped for other traffic and was rear-ended, 11 kilometres outside of Port McNeill, Vancouver Island, on Highway 19: https:// www.northislandgazette.com/news/oneperson-dead-in-logging-truck-collision-2/

And, in January 2018, the following logging truck incident on public highway, happened 10 kilometres north of Vernon and appeared in media coverage including in CFJC Today Kamloops: http:// cfjctoday.com/article/604215/loggingtruck-spills-its-load 👁



Screenshot of image in CFJC Today Kamloops of a January 8, 2018 logging truck incident 10 kilometres north of Vernon that closed Highway 97 for three hours.

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- 1. Start going to bed and waking earlier do this when night shifts become imminent due to changing weather conditions. Try doing it in 30 minute increments.
- 2. Prepare your sleep environment make your room dark and guiet. Remind loved ones not to disturb you while you are sleeping and turn off your cell phone.
- Consistent routine once on the night shift keep your routine consistent even on days off.
- 4. Strategic caffeine use have one cup of coffee prior to starting your shift then have another of coffee or caffeinated beverage mid shift.
- 5. Take a rest if the chance presents itself while on duty take a 15-20 minute rest.
- 6. Physical activity during your shift get up and walk around when you can i.e. truck inspection while waiting in line to get loaded or unloaded.
- 7. Bright light getting exposure to bright light can help make your brain more alert. Spend an extra few minutes in the scale shack or turn on the cab light while stopped/waiting to keep yourself alert.
- Prioritize sleep get as much sleep as 8. you can, ideally 7-9 hours. 🖗

## Winter driving tips for truckers and others

Find many resources and additional links to information about safe winter driving here: http://www.bcforestsafe.org/node/2456 which include:



10 winter driving tips for BC log haulers: http://www. bcforestsafe.org/ node/2074





15 essential winter trucking tips: https://www.smarttrucking.com/drivingin-snow.html



8 winter driving preparation tips: https://blog. betiresmart.ca/ hubfs/2018%20 -%20Winter%20 Tire%20Campaign/ BeTireSmart\_ Winter%20Driving%20 Tip%20Card\_WEB.pdf



Shift into Winter: https:// shiftintowinter.ca/ ④



# Future faller technology for enhanced safety

### · Fallercams: chest or helmet

A quick review of YouTube and Facebook proves that the future has already been embraced by early adopters in the falling community in BC. Videos of hand falling activities are posted regularly, using hard-hat or chest pack cameras and drones.

10 years ago technology did not allow for such relatively accessible and affordable, quality video footage that literally can take one from the preliminary tree assessment through undercuts, wedging to eagle eye view at the top of the tree, capturing every action of the faller and then of the tree as it falls. To have been able to make these kind of videos in the past would have required a professional production crew, costing thousands of dollars for a few minutes of footage.

With all the possibilities that technology offers today and the anecdotal success of individual fallers and companies testing video possibilities, FPInnovations was asked in the last quarter of 2017 to explore the use of cameras and technology to improve safety for manual tree falling.

In collaboration with lotatel Inc., a Vancouver Island based wireless communications startup company, FPInnovations has considered a large number of different options and technologies that might be feasible and practical in:

- Allowing users to capture and demonstrate work practices by collecting video to improve training of new and existing fallers
- Reducing the cost of evaluating fallers and improving the quality of information collected and
- 3. Livestreaming video to improve the safety performance of falling in general.

Last month a demo was held in Campbell River to explore the possibilities during falling activities thanks to the support of Blue Thunder Contracting, who organized members of their falling crew to film and be filmed on one of their worksites. Representatives from all the major coastal licensees were present as well as representatives from contractors, BC Wildfire Service, WorkSafeBC and the BC Forest Safety Council.

The main goal of the demo was to introduce everyone to the possibilities and provide a venue for facilitated discussions to learn about specific industry and organizational needs. See: https://www.iotatel.com/fallercam to learn more about faller cams.

Updates from the demo will be shared and discussed at the March 2018 Falling Technical Advisory Committee meeting, and in future editions of Forest Safety News. (4)



Industry representatives received a demo on how the cameras and technology work from FPInnovations and lotatel Inc.

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Part of the group of industry representatives who attended a live in-field demo of the latest camera technology in a falling workplace.







Steve Venus, of Blue Thunder Contracting demos the chest pack camera.

## FTAC meeting in December 2017: Updates on projects and 2018 work plans

Topics discussed at the last Falling Technical Advisory Committee (FTAC) meeting in December included:

- continuing to hold the falling manager position open with the future successful candidate being someone who spends 50% of the time in field
- facilitator and chair roles going forward will be decided at next meeting (no quorum at this meeting)
- encouraging the next generation of FTAC members to join
- Streamlined Certified Falling Supervisor (CFS) form
  - » Reduced from five to three pages
  - » Successfully tested with employers
  - » Effective January 1, 2018 for all new applications (see: http://www.bcforestsafe.org/files/enrol\_ xCertifiedFallingSupervisorApplication.pdf)
- CFS quality assurance review
  - » The BCFSC will pilot a revised quality assurance process in 2018 and report back to FTAC at the end of this year. The new process better matches available resources to carry out CFS quality assurance based on the increased demand for CFSs. Initial quality assurance will still be done within the first year after certification but further quality assurance will only be done on a 10% random sample and in response to any invitations or requests from employers.
- WorkSafeBC presented update, recent inspection rates and orders year to date as well as information on a dedicated head falling team, covering the whole province with a focus on new faller training and qualified assistance. This team will work to support WorkSafeBC officers who are not fallers to help ensure there is more consistency in inspections.
- BC Faller Standard update included information that pre-pilot of new faller training program was concluding in December 2017, involving two trainees and two trainers.
   Pilot is scheduled to proceed by March 1, 2018. iTrak is the technology being used to support the pre-pilot and pilot training reports.
- a phase congestion report currently in development by the Forest Safety Ombudsman, Roger Harris (due first quarter 2018) and an update on activities since the release in 2017 of his Helicopter Emergency Medical Services (HEMS) report. The Union of BC Municipalities (UBCM) endorsed the resolution supporting the report and the topic was scheduled for the Truck Loggers Association annual convention agenda (held last month in Victoria).
- Qualified Assistance information updates included approval on a poster and posting of resources on the BC Forest Safety Council website.

# Key falling department numbers for 2017

BC Forest Safety Council falling safety advisors completed the following activities during the year:

29 Fallers Certifications (23 new faller trainees, six challenges)

- **11 Falling Supervisor Certifications**
- 188 Faller visits
- 8 Certified Falling Supervisor Quality Assurance visits
- **21** Certified Falling Supervisor visits

25 Trainer Quality Assurance visits (15 Qualified Supervisor Trainers and 10 Qualified Faller Trainers)

Any faller, falling supervisor, contractor or licensee who would like to receive a confidential site visit to discuss or review any safety aspect of falling, is encouraged to call toll-free **1-877-741-1060** and speak with a falling safety advisor.



Information, including regulations and guideline, as well as a poster (above) on qualified assistance may be viewed, downloaded or ordered: http://www.bcforestsafe.org/QA and http://www. bcforestsafe.org/node/3046 (poster)





## Focus on new young workers: what I know now

By Gerard Messier, RPF, CRSP, BCFSC program development manager

"What I Know Now" is the title of a new online program from WorkSafeBC that is aimed at helping employers better train and prepare new workers for their jobs. Most supervisors have been in the forest industry for a while and have seen a lot, both good and bad. This project is all about sharing that information with the next generation of workers to help them perform better and avoid mistakes and injuries that have happened in the past.

Take a moment and think about the experienced people in your company. Add up the number of years of experience and you may be surprised at how high that number is. For most operations, that experience is an untapped source of knowledge. A mentoring program may be the best way to share that knowledge. These types of programs do not need to be complicated. Simple ride along programs or work shadowing sessions with experienced workers are effective, especially when coupled with positive reinforcement from supervisors. For more information on this program, check out the following link: http://worksafebcwhatiknownow.com/



As a related project, WorkSafeBC developed resources specifically for young workers, called "Listen to Your Gut". These resources are motivational and educational. Many young workers know that something may be wrong or out of the ordinary but may not have the confidence or desire to mention it to their supervisors. They may not know exactly what to say, what to do or who to talk to. The online resources include basic, plain language examples and advice for them to follow. Here's the link: http:// worksafebclistentoyourgut.com/



For forestry specific ideas on how to best prepare new and young workers, check out the following BC Forest Safety Council Monthly Safety Alert: https://www. bcforestsafe.org/node/3030 (%)

## Leadership defines success

"A leader is one who knows the way, goes the way, and shows the way."

– John Maxwell

Forest Supervisor – Module 3 Leadership and Professionalism for Forest Supervisors

Participant Manual

v. 1.1

One of the forest supervisor training modules, Leadership and Professionalism, aims to help participants:

- Capitalize on personal strengths and minimize weaknesses – personal awareness
- 2. Identify characteristics and roles of leaders — leadership skills
- Describe professional qualities professionalism
- 4. Describe key human resources functions team building and worker relations
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Key is understanding how to be a good leader and what that means in how you communicate with people, balancing directive behaviours with supportive behaviours. In the end leadership is about achieving desired results, performance and behaviours from teams and team members and these can only be achieved when leaders inspire the feelings, attitudes and commitment of individuals and groups to achieve the intended results.

The course covers understanding your own go-to leadership style and how to recognize your team members' preferred styles. Participants are better able to understand how to effectively motivate and lead diverse teams, using all of the leadership tools of participating, delegating, selling and telling, dependent on the situation, the individual team members – their skills, motivations and personal preferences – and/or the tasks.

Leadership skills are significant as effective leaders are able to facilitate their workers feeling less tension in the workplace, having

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a higher morale, feel more empowered and safer when they know that employers and leaders truly care about them and their wellbeing.

All high performing teams share the following characteristics:

- People trust each other and feel respected.
- Everybody is working toward the same goals.
- Team members know how to accomplish tasks, and their roles and expectations.
- Everyone has a voice, and gets a chance to contribute during discussions.
- Disagreements are managed, and are constructive; viewed as opportunities for problem solving.
- The team makes decisions when there is natural agreement – otherwise decisions are made by supervisors/managers. And decisions are respected.
- Leaders are flexible and make changes to drive results.
- No individual members are more important than the team.

# 1,833 participants attended BCFSC training sessions in 2017

The BC Forest Safety Council offers industry training that helps support the best health and safety outcomes. The following is a summary table of the courses offered in 2017 and the number of participants who successfully completed each of the courses.

Type of training	Number of participants to successfully complete the course
Individual Owner Operator	107
Individual Owner Operator Refresher	4
Individual Owner Operator Refresher Online	29
Small Employer Occupational Health and Safety	290
Small Employer Occupational Health and Safety Online	54
Small Employer Occupational Health and Safety Refresher	27
Small Employer Occupational Health and Safety Refresher Online	79
Internal Auditor and Refresher	46
External Auditor	6
External/Internal Auditor Teleconference	215
Forest Safety Overview	64
Basic Incident Investigation	172
Advanced Incident Investigation	38
Forest Supervisor	471
Falling Supervisor	74
Basic Chainsaw Operator	157
Total number of participants:	1,833

- Some actions that support leading and maintaining a safety culture:
- Publish a list of safe actions for your workers
- Reward workers who are great examples
   of safety
- Create a safety award program in your company
- Recognize safe workers during staff meetings
- Promote safe employees to positions of higher responsibility
- Involve safe employees in orientation of new workers
- Talk about safety at every opportunity
- Be aware of your own behaviour and what you are demonstrating to your workers
- Support employees who want to learn more about safety
- Listen to new ideas
- Thank employees who report near misses, close calls, and hazards
- Follow up with employees who have reported something to let them know what

you have done or are going to do

- Let all employees know the actions you are taking to address a reported unsafe condition
- Where possible, involve employees in inspections and investigations so they can develop better skills at looking for safe conditions
- Cultivate curiosity in your company
- Cultivate taking responsibility
- · Post safety messages in your work areas
- Find the people who are especially enthusiastic about safety and give them responsibilities in the safety program
- Organize learning sessions for workers
- Have safety books, videos and resources available in the lunchroom
- Recommend videos or books or other resources to workers.

To learn more about leadership and professionalism means to improving operational and human performance, contact training@bcforestsafe.org or call toll-free 1-877-741-1060. (\$)

## Feedback summary from 2017 training sessions is positive

During and after all BC Forest Safety Council training sessions, course participants are encouraged to complete feedback forms to help ensure courses continue to deliver on their intended outcomes. All feedback is reviewed internally and analyzed so that appropriate actions may be considered and implemented to ensure continuous improvement in the learning experience. The trainers and the BCFSC greatly appreciate all feedback. The following is a quick highlight summary of key feedback from courses delivered in 2017.

## Basic and Advanced Incident Investigation sessions

**Strengths:** concise, good content, materials and instructors

**Key learnings:** eye-opener re: investigation bias; will be better prepared; will ask better questions and record better reports

Suggestions for improvement: more case studies, less videos

**Overall satisfaction ratings from 26** 

participants (in All ): 9 excellent, 16 very good; 1 good

## Forest Supervisor Training, module 1: due diligence sessions

**Strengths:** real life industry examples; valuable information in materials; instructor; open discussions; a good foundation; a lot of information packed into one day

**Key learnings:** making sure I meet proof of due diligence; communicating more and reinforcing; improving my documentation; good tools to improve my safety program effectiveness

**Suggestions for course improvement:** tough to balance all the content in keeping it within one day; more hands-on; more getting up and moving about; better manual content to match delivery

**Overall satisfaction ratings from 131 participants:** 43 excellent, 59 very good and 29 good

## Forest Supervisor Training, module 2: communication sessions

**Strengths:** Good materials and presenter; variety of activities; left with new skills on how to communicate better; great tips

**Key learnings:** a framework for thought and improvement; how to deal with workers more effectively; communication is more than just talking; lots of tips for listening better, meeting and tailgate tools; asking for feedback to ensure understanding

Suggestions for improvement: a few more micro breaks; didn't find the email section helpful

**Overall satisfaction ratings from 118 participants:** 34 excellent, 60 very good, 23 good and 1 fair

#### Forest Supervisor Training, module 3: leadership and professionalism sessions

Strengths: great content, good exercises, good presenter

**Key learnings:** learned things about myself; new tools for the toolbox; how to maximize people's

#### Continued on page 14...



#### Continued from page 13...

strengths; easy methods to improve to be a more effective supervisor; sensitive to team dynamics

Suggestions for improvement: include all slides in booklet; reduce repetition Overall satisfaction ratings from 111

participants: 37 excellent, 52 very good, 16 good, 6 fair

## Falling Supervisor Training

Strengths: instructor to student ratio; great information; well delivered by knowledgeable and experienced trainer; good pace over five days covering a lot of information Key learnings: better understanding of regulations and requirements; liability as supervisor is serious; how to be a more proactive supervisor; more confidence Suggestions for improvement: cover a little more on new technologies; a lot of information to cover but still tough taking a week off work to attend

#### **Overall satisfaction ratings from 38**

participants: 13 excellent, 23 very good and 2 good

#### Small Employer OHS and Refresher Training

**Strengths:** good instruction; great trainers; excellent materials, videos and case studies; very well organized; great discussions; shown where to find more supports tools going forward online

**Key learnings:** everything needed to be able to complete a SAFE Companies audit and implement a good safety management system for a small company; job safety and safe work procedures; how important safety is and how to implement better procedures

Suggestions for improvement: offer it online; acronyms were confusing; less story-telling; more about the audit, less about general safety Overall satisfaction ratings from 197

participants: 98 excellent, 83 very good, 15 good and 1 fair 4

## **Upcoming training**

If you would like to see how a training course can meet your organization's needs, please let us know. We are committed to working with you to find the right training solution. We may be able to tailor a program to your specific needs and deliver it in a way that is most convenient for your operations.

### **Basic Incident Investigation training**

Feb 22	Nanaimo	
Feb 22	Prince George	
Mar 12	Castlegar	
Mar 19	Kamloops	
Mar 22	Langley	
Mar 26	Williams Lake	
Apr 23	Terrace	
Apr 25	Houston	
Apr 26	Vernon	
Falling Supervisor trainin		
Mar 12	Nanaimo	
Apr Q	Campbell Piver	

Apr 9 Campbell River
Forest Supervisor training

#### Module 1: Due Diligence (1) Module 2: Communications (2) Module 3: Leadership & Professionalism (3)

r roressionalistit (S)		
Feb 28	Nanaimo (1)	
Mar 1	Nanaimo (2)	
Mar 2	Nanaimo (3)	
Mar 14	Castlegar (1)	
Mar 15	Castlegar (2)	
Mar 16	Castlegar (3)	
Mar 21	Vernon (1)	
Mar 22	Vernon (2)	
Mar 23	Vernon (3)	
Mar 26	Houston (1)	
Mar 27	Houston (2)	
Mar 28	Houston (3)	
Apr 4	Cranbrook (1)	
Apr 5	Cranbrook (2)	
Apr 6	Cranbrook (3)	
Apr 18	Prince George (1)	
Apr 19	Prince George (2	
Apr 20	Prince George (3	

#### Joint Occupational Health and Safety Committee training

Feb 23	Nanaimo
Feb 23	Prince George
Mar 13	Castlegar
Mar 20	Kamloops
Mar 23	Langley
Mar 27	Williams Lake
Apr 3	Cranbrook
Apr 24	Terrace
Apr 26	Houston
Apr 27	Vernon
Small Em	ployer OHS trainii
	ner training
Feb 15	Campbell River
Feb 15	Prince George
Mar 1	Vernon
Mar 1	Williams Lake

Mar 8	Fort St John
Apr 12	Kamloops
Apr 12	Nanaimo
Apr 12	Prince George
Apr 19	Langley

## Individual Owner Operator OHS training & Refresher training

ng

Feb 24	Teleconference
Mar 24	Teleconference
Apr 28	Teleconference

View the full 2018 training calendar here: www.bcforestsafe.org/fscapps/calendar/ calendar.php. Please check back often as course dates may change if there are insufficient participants. All training is offered on a not for profit, cost-recovery basis. Email training@bcforestsafe. org or call toll-free 1-877-741-1060 for general information, or email Gary Banys at banys@bcforestsafe.org to answer any questions you might have about course content and/or about tailoring courses to meet your company's needs at a location of your choice. @



# Whole body and hand-held tool vibration:

What happens when your machine vibrates



By Dr. Delia Roberts

Many jobs in forestry either use a handheld tool that vibrates or involve long hours seated on a machine that rumbles and shakes as it moves over rough ground. Research over the past 15 years suggests that the effects of repeated exposure to vibrations are variable from person to person, but if the exposure is high enough, it can contribute to the development of poor health and disease.

Vibration exposure depends on a lot of factors. The size of the vibrations (how much movement takes place) and their intensity (how fast the vibration occurs), combined with the length and regularity of exposure. But other factors such as how hard the surrounding muscles are contracting (tightness of grip, need to balance on an unstable surface), posture (neutral joint position), environmental factors (noise, cold, dampness), the use of tobacco and fatigue can also contribute to the effects of the vibrations.

## Holding a tool or control stick that vibrates

When you grip a tool or control stick, the blood flow through your fingers and hand are reduced. The harder you grasp, the more the muscles squeeze the blood vessels and nerves between the layers of muscle, and against bone and the hard surface of the device. If your wrist, elbow and/or shoulder are also in a position where the muscles are strongly contracted or the joints are compressed, blood vessels and nerves can be even more at risk.

Warning signs to watch out for include white fingers, numbness or tingling, and eventually pain. When the tissues don't receive enough blood they can start to die, nerves are especially sensitive to this, so don't ignore a loss of feeling. If you have some of these symptoms, check your tool to make sure that it is running properly and that it is not vibrating excessively because it needs maintenance. Rubber grips and dampening can help, but be careful as some products such as anti-vibration gloves have been shown to make the situation worse by increasing the force required to grip the tool. When working outdoors, keep your hands, wrists and elbows warm and dry as much as possible, and if you have to work in the rain or snow, stop from time to time to warm these areas. Consulting with an ergonomist is worthwhile, as adjusting your posture can improve blood flow while working. The ergonomist or kinesiologist can also help you with specific stretches or range of movement exercises that you can use regularly to restore circulation to the affected tissues.

## Whole body vibration

Running a machine that generates vibrations through the engine or because of traveling on rough ground can be problematic. Some of the effects can be transmitted through the steering wheel or hand control and are similar to those described above. However, when sitting the vibrations are transferred into the spine and if large enough, can contribute to problems with spinal discs. Some research shows that whole body vibration may even contribute to digestive problems and other diseases of the internal organs. When standing, the knee joint is also at risk.

As described above, vibrations cause blood flow to the area to be reduced. Hence, cold, dampness, smoking and dehydration can make these effects worse. The small nerve endings can be damaged because of insufficient blood supply, but they are also affected directly, and this may be more of a problem with whole body vibration. Nerve endings in the joints and muscles are sensitive to pressure, stretch and load, and will respond by activating muscle to support the joint. Vibrations disrupt the ability of these nerves to accurately sense changing loads. Our ability to control movements is impaired, and this can lead to injury.

## Try taking a 2-minute movement break once every hour to do the following exercises:

- Shake out your hands for 10 seconds
- Pulse your fingers by opening and closing your fists ten times quickly
- Circle your wrists outwards 5 times, inwards 5 times
- Stretch by extending your arms forward at shoulder height, elbows straight and wrists bent. Hold with fingers pointing up for 10 seconds, then pointing down for 10 seconds
- Stretch with arms down at your sides, elbows straight, wrists bent and fingers pointing straight out to the sides. Slowly raise your arms up (keep your shoulders down) until you feel a little bit of buzzing in your wrists. Gently pulse your arms up and down at this level for 10 seconds.
- Roll your shoulders inward for 10 circles and outward for 10 circles
- Press your shoulders down and roll your head to the right slowly, then to the left. Repeat 5 times
- Gently swing your arms up and down and all around 10 times, gradually making the movements larger as pain and flexibility allow.

## Fatigue and vibration relationship

Making sure your machine is in good working order is a good idea for many reasons, but can also help keep vibrations to a minimum. Tire quality and running pressure are important for trucks, and vibration reducing seats can help for both drivers and equipment operators, if the seat selected is correctly installed and appropriate for the type of vibration experienced. Fatigue will increase the effects of vibration and excessive vibration will generate more fatigue. Posture is also critical, one study showed that the more awkward the posture, the greater the perceived effect of the vibration. Once again an ergonomist can help to ensure that the joints are held in as optimal a position as possible, thereby reducing the effect of the vibration and lowering the risk of injury or other negative impact from the vibration.

Intermittent movement can be very effective in helping to reduce the effects of vibration. Get out of your machine regularly, using three point contact, and take a moment to adjust your posture and readjust those all-important reflexes that will help your joints stabilize. Walk briskly around the machine, three times. The first is a gentle readjustment to restore blood flow and the nerve muscle communication. Focus on posture and the movement, stability and avoiding ground hazards. The second time should still be slow, but this time adjust your focus to check your machine. The third time is back to a movement focus with a faster walk, to further increase blood flow. If you are concerned about the cultural effect of being seen circling your machine, or there are other hazards present that make it unsafe to be outside of your machine, at the very least raise and lower your legs off the seat, stretch and bend your legs and lift your butt off the seat to allow some blood to return to areas that have been restricted.

We can try to adjust the tools and machinery to reduce vibration, but there is also a lot that you can do through healthy movement practices to reduce the effects of existing vibration on your body.

For more information, see the Canadian Center for Occupational Health and Safety:

#### https://www.ccohs.ca/oshanswers/phys\_ agents/vibration/

or the World Health Organization: http:// www.who.int/occupational\_health/pwh\_ guidance\_no.10\_teaching\_materials.pdf @



## TimberWest successfully tests new technology to reduce risks in mobile equipment—ground crew interactions

One of the high risk activities for forestry operations involves interactions between mobile equipment and workers on the ground. Proper planning, training, effective two-way communication and safe work procedures are now being further supported by leading technology involving cameras and sensors for machine operators, with warning alarms both inside and outside the cab.

TimberWest is one of BC's industry leaders in seeking and testing engineered solutions to further reduce risks. "We look at every possible way to make our job sites safer," said John Shearing, Contract Manager, South Island Logistics Facility for TimberWest. "So we were eager to try out ScanLink's<sup>(1)</sup> new proximity sensor technology as it could provide a secondary layer of precaution to the already standardized back-up alarms outfitted on industrial machines."

The licensee chose its South Island Logistics Facility, in Crofton, to pilot the technology. Radio Frequency Identification (RFID) uses electromagnetic fields to automatically identify and track tags

attached to objects. How it works on equipment is that the sensor part is mounted on the equipment and the tags that are going to be scanned are within stickers that are applied inside the hard hats of the ground crew.

The proximity sensor software allows the user to tailor the range of the



A view of the rear camera affixed to the sensor technology. (All photos from www. timberwest.com)

sensor's magnetic field generator which means it can be set to only trigger when an individual is within a designated proximity range. When the sensor is triggered, a distinct alarm will sound both inside and outside of the operator's cab, warning the machine operator and putting the ground crew worker on notice to immediately vacate the area and move to safe ground.

The most active pieces of equipment at the TimberWest site are wheel loaders so the decision was taken to pilot the new safety technology with a CAT 980K wheel loader.

Operator, Doug Scott, of Spuzzum Contracting, was first to trial it. "The thing is I am sitting in a cab about 8 feet above the ground. When you back-up a machine this size the rear window doesn't allow you a full view of what is

While we have clear rules that prevent ground crew being

## on the ground below. "Engineered solutions further reduce risk"

around the machine, the sensor makes a world of difference in helping make sure there are no mistakes."

Jesse Stromguist, head of Spuzzum Contracting said: "We really got to customize the CAT 980K all thanks to Finning. We decided to add a camera to the sensor, and a screen inside the cab giving the machine operator a real-world view of what was happening behind him."

"The RFID stickers are really great too. We would like more of them on site, because



The radio frequency identification (RFID) stickers are placed inside the hard hat.

as the crew suggested, it makes sense to add the stickers to objects that may be out of the operator's field of vision and cause damage to the machine. The more tools we have in our belt, the better off we are at the end of the day. Now, the RFID stickers not only help us protect our workers, they can also help us avoid damage to items and equipment in the yard."

Feedback from the ground crew on the new system has been extremely positive. "Everyone on site really likes knowing that an extra level of safety has been added to one of the most active and important machines in the yard," said Mr. Shearing. "Our goal at TimberWest is to provide all of our workers with a safe and healthy workplace. With the help of industry

> partners and innovative technology, we have taken a proactive step in that direction."

"This technology is a home

run," said Jeff Zweig, President & CEO of TimberWest. "With this type of innovation, and others that are emerging, we can expect a step-change improvement in safety performance. There is nothing more gratifying than that. As an organization we are committed to a proactive approach on safety, and will continue to investigate and invest in new technologies that make the workplace a safer place," he said.

TimberWest is currently considering additional applications of the technology. Anyone interested in learning more about the technology may contact Finning or ScanLink. 🗳

Footnote: (1) Manufactured by ScanLink and distributed through Finning, the world's largest Caterpillar distributor headquartered in Vancouver.

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