# WorkSafe

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#### **Centre Pullout**

#### What's wrong with this photo?

This driver needs a crash course in safe driving.

On the front cover: Retired worker, Brian Duncan, knows the dangers of asbestos all too well. In 2012, he was diagnosed with asbestosis. His former employer is now at the forefront of an asbestos awareness campaign in the Cowichan Valley.

#### From the editor

#### A safer future

In this issue's cover story, retired worker Brian Duncan tells us, "If I had my life to live again and I knew then what I know now, I'd live to be 100." Brian, who was diagnosed with asbestosis at 64 years old, understands well the dangers of working in unsafe conditions.

While Brian's exposure started in the 1960s, asbestos exposure is not a thing of the past. Last year, more than 400 workers in B.C. reported being exposed to asbestos. In an effort to inform home renovators and employers about this danger, Brian's former employer, the Cowichan Valley Regional District, has been working on an awareness campaign that includes everyone from workers, to contractors, to real estate agents (page 7). Because the latency period from exposure to asbestos is anywhere from 20-50 years, it will be today's actions that protect workers from future occupational disease.

In this issue, we also look to the future quality of life for injured workers, by looking at the technical possibilities of robotic prosthetics through Danny Letain, who will be wearing a prototype prosthesis to compete in the first-ever Cyborg Olympics (page 18). And, we look to the future of physical job demand analysis and how motion-capture technology could change not only how data is gathered but also how it can be applied to return-to-work programs (page 23).

A focus on safety today could save someone's life tomorrow, next year, or even 40 years down the line. When it comes to a person's life, taking the time to think about the future is worth every second.



Editor-in-chief

## WorkSafe

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WORK SAFE BC







#### Contributors



Courtenay-based writer Ryan Parton examines the sobering reality of asbestos exposure in this month's cover story (page 7).



#### Gail Johnson

Biomechanics, PJDAs, and motion-capture technology? Find out what these tech terms mean for the future of prevention and return-to-work programs in Gail Johnson's Work Science story (page 23).



#### Marnie Douglas

Marnie Douglas speaks with former Paralympian Danny Letain on competing with a new robot arm in the first-ever Cyborg Olympics, thanks in part to WorkSafeBC (page 18).



#### Gord Woodward

Nanaimo-based writer Gord Woodward tackles proposed changes to policy (page 16) and the employers' responsibility for protecting workers from heat exposure in Ask an Officer (page 5).

#### Ask an Officer

## As temperatures rise, so does risk of heat stress



Deepak Chadda WorkSafeBC occupational hygiene officer

Region: Kelowna Years on the job: 26

As summer winds down, we speak with WorkSafeBC occupational hygiene officer Deepak Chadda about protecting workers from heat stress.

#### Q. What is heat stress?

A. Heat stress is the term used for several heat disorders that can occur when the body isn't able to properly cool itself by sweating. Mild cases include heat rash or heat cramps. If the symptoms aren't treated in the early stages, more serious conditions can develop, such as heat exhaustion or heat stroke, which can be fatal.

#### Q. What causes it?

A. Doing heavy physical work in a hot and humid environment can affect the body's cooling system and cause heat stress. So, for example, hot summer sun can be a factor for outside workers in road or commercial construction, roofing, and agriculture.

But it's not just the temperature — there are other variables, such as the lack of air movement, how long workers are in direct sun, humidity, radiant heat, and clothing the worker wears.

#### Q. How do we know if our workers have heat stress rather than just being hot?

A. Symptoms to watch for include sweating, shallow breathing, dizziness, headache and nausea, and fainting. Always have your first aid attendant immediately check the worker if any of these symptoms are present.

The effects of heat stress can vary from person to person, depending on factors such as being overweight, being over the age of 45, not being physically fit, having some medical conditions, or taking certain medications.

#### Q. Our workers are always indoors so how could they be at risk of heat stress?

A. Heat stress is not just about exposure to the sun. Many workers can be exposed to potentially unsafe temperatures indoors. From pulp mills and foundries or smelters to commercial bakeries and kitchens, workers are exposed to heat from their work environment, which can further intensify during the warmer months.

#### Q. What are my responsibilities for protecting workers?

A. As an employer, you must conduct a risk assessment if there's potential for workers to be exposed to heat stress hazards. Assess the risk factors for all the activities at your job sites, both indoors and outdoors. It can be helpful to review any records from previous heat stress incidents. Once that's done, you need to develop a heat stress exposure control plan.

#### Q. What do we include in a heat stress exposure control plan?

- A. Your control plan should include training and safe work procedures that cover:
  - · Sources of heat
  - Use of the WetBulb Globe Temperature (WBGT) formula or a Humidex Chart
  - Engineering and administrative controls to reduce exposure
  - · Early signs and symptoms of heat stress
  - Medical treatment

#### Q. What are the best prevention controls?

**A.** A combination of controls is most effective. Engineering controls can include shields around heat sources, insulating hot surfaces to reduce radiant heat, and installing cooling fans and air conditioners or dehumidifiers. Administrative controls include adjusting schedules to limit the

"Heat stress is not just about exposure to the sun. Many workers can be exposed to potentially unsafe temperatures indoors."

> —Deepak Chadda, WorkSafeBC occupational hygiene officer

time workers are exposed to the hottest temperatures, and providing more frequent breaks.

When it comes to personal protective equipment, workers should wear light-coloured and loose fitting clothing made from a breathable fabric. And it's important for them to stay hydrated. Workers should drink about half a litre of water before their shift, and then another cup every 20 minutes or so.

Acclimatizing workers to hot environments is recommended. They should be exposed to the heat for about 20 percent of their initial shift when they're new on the job or just back from time off, and then gradually increase exposure by 10 to 20 percent of the total shift time each day.

#### Q. Where can I find more resources on heat stress?

- A. We have some helpful tools at worksafebc.com, including the following:
  - A toolbox meeting guide: worksafebc.com/ resources/health-safety/toolbox-meeting-guides/ heat-exhaustion
  - A booklet on preventing heat stress, downloadable in several languages: worksafebc.com/resources/ health-safety/books-guides/preventing-heatstress-at-work

Looking for answers to your specific health and safety questions? Send them to us at worksafemagazine@ worksafebc.com and we'll consider them for our next 

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## Asbestos: the hidden killer

#### "If I had my life to live again and I knew then what I know now, I'd live to be 100."

Brian Duncan, a 68-year-old Vancouver Island retiree who spent most of his adult life in the manufacturing and construction trades, has a lot of regrets. He has even more resentment — resentment that for more than 50 years he was allowed to work with a supposed miracle material that's now widely known as "the hidden killer."

As a shipwright in the 1960s and '70s, Duncan was regularly exposed to an asbestos-containing, spray-on fire retardant known as Limpet. "There were times when you couldn't see five feet in front of you because of the dust that was flying around," he recalls. "I really resent the fact that I was told it was safe."

Duncan's asbestos exposure only increased in the following decades, when he worked on home renovation projects throughout the Victoria area. Then, in 2012, after seeing his doctor about a cold he couldn't seem to shake, Duncan was diagnosed with asbestosis — a chronic scarring of the lungs caused by continued exposure to asbestos. Though seldom fatal on its own, asbestosis progressively diminishes lung function (at the time of his diagnosis, Duncan's lung function was just 47 percent) and often develops into cancers like mesothelioma — a fast-acting cancer that is almost always deadly.

So far, Duncan has been fortunate — his asbestosis hasn't progressed. Though he no longer plays hockey or fastball, the shortness of breath he experiences hasn't yet stopped him from doing other things he loves, like restoring an old sailboat with his son or tending to his five-hectare hobby farm in the Cowichan Valley. For many other B.C. workers the picture is not as good.

In recent years, work-related fatalities in B.C. have generally declined, despite an ever-growing workforce. Deaths related to occupational disease (primarily driven by asbestos-related exposure), however accounted for 59 percent of worker deaths in 2015 this makes asbestos the leading cause of work-related death in the province. In 2015 alone, 48 British Columbians lost their lives to conditions related to workplace asbestos exposure. Exposure issues are still significant and ongoing today with more than 400 new asbestos exposures reported to WorkSafeBC in 2015.

#### Incremental progress

Though asbestos is largely considered a dirty word here in 2016, just how ever-present it is in homes built prior to 1990 is largely underestimated. Because of its high tensile strength and great insulating and fireproofing properties, asbestos was widely used in construction and manufacturing between the 1950s and the 1980s. By the mid-1970s health concerns about asbestos exposure had begun to surface, and in 1979 the Canadian government banned the manufacture of most asbestos-containing materials (ACMs). However, importing of asbestos still continued and non-friable ACMs (materials that can't be pulverized by the human hand) continued to be produced. Today, asbestos is commonly found in the insulation, flooring, plumbing, light fixtures, and many other components of homes built as late as 1990.

"When you look at consumption of asbestoscontaining materials on a per capita basis, we in B.C. consumed more than any other province," notes Corinne Lapointe, a Victoria-based occupational hygiene officer with WorkSafeBC whose primary focus is asbestos-related issues. "Homeowners who decide to renovate their homes, especially those built before 1990, need to be particularly aware of the potential for exposure — both in work they undertake themselves or by those they hire."

Though usually harmless if left undisturbed, asbestos becomes a killer when it is disturbed or through degradation causing it to become airborne. With friable materials, like vermiculite, opening up an attic space where asbestos is present can result in fibre release. For non-friable materials, actions like cutting, drilling, or crushing causes its fibres to become airborne.

"Once people learn about the dangers of asbestos exposure], they wish they had known long ago."

—**Ilse Sarady**, environmental technologist for the Cowichan Valley Regional District



Given the largely underappreciated risks of asbestos and its disproportionate share of the cause of death of B.C. workers, WorkSafeBC has taken a proactive approach to targeting employers who fail to protect their workers or take asbestos seriously. Since 2014, WorkSafeBC officers have conducted a targeted asbestos enforcement initiative each year during the construction season. Between July and December 2015, officers inspected 158 single family residential demolition and renovation sites, citing 203 initiating orders for asbestos-related violations.

Though there has been resistance, asbestos awareness, and the willingness to deal with the material carefully and in accordance with regulation, is gradually increasing, says Lapointe.

"Compared to four or five years ago, it's improving," she says, noting that many people initially balked at the additional costs associated with safely managing asbestos. "We're still in a phase of resistance, but we are meeting with less. More home owners and contractors are effectively managing hazardous materials, helping to protect workers from asbestos exposure."

Lapointe compares the gradual acceptance of safe asbestos practices with the introduction of B.C.'s seatbelt law in 1977 — while there was pushback at first, buckling up behind the wheel is now second nature to most B.C. drivers.

"It happens incrementally," she explains. "It's the odd television interview speaking to the perils of asbestos; a newspaper article outlining the issues around dumping of construction waste, parents who are concerned about asbestos in their child's school ... it's all part of the fuel that compels social change."



#### Partnering with communities

The social change for which Lapointe is striving seems that much more achievable with the buy-in and participation of local municipalities. The most recent example is the Cowichan Valley Regional District (CVRD), Brian Duncan's former employer, which launched an innovative asbestos awareness campaign in May with educational support from WorkSafeBC.

Initially prompted by safety concerns for employees of its three recycling and waste transfer facilities, the CVRD campaign consisted of a dedicated website (cvrd.bc.ca/asbestos-kills), awareness-building collateral such as billboards, rack cards, and social media messaging, and a "lunch and learn" for CVRD staff and local real estate professionals. While attendance at the lunch and learn was low, its organizer says those who did turn up left with eyes "as wide as saucers."

"They were like, 'Wow, everyone should receive this information," says IIse Sarady, the CVRD environmental technologist who spearheaded the campaign. "For them it was new and it was all terrifying but really interesting. It just shows that once people learn, they wish they had known long ago."

While quantitative statistics on the CVRD campaign are low, Sarady says the initiative is having a noticeable effect.

"The first thing that happened was an elderly man came in with a yogurt container full of vermiculite insulation wanting to know if it was asbestos," Sarady explains. "He'd seen the billboard, so that was effective in terms of visibility." She adds that rack cards and a sandwich board set up at local recycling and waste centres were also effective.

"These two tools really helped those working at the facilities talk to people about asbestos," she says,

"There's this underground economy that we're battling with; that's where the education has to get out to the community. You may save a few bucks, but at the end of the day it's going to cost you your life."

-Brian Duncan, retired worker

noting that staff encounters ACMs on a weekly basis. "When people came with [ACMs] and we had to turn them away ... we had the opportunity to hand them this tool; something visual that we could use to start the discussion."

It's those direct conversations with community members that Lapointe believes are so important in increasing asbestos awareness. For that reason, she describes the organizers of the CVRD campaign as "trailblazers."

"There's no question they're trailblazers putting together this public awareness campaign," she says. "In their efforts to manage asbestos in the community, they are protecting their own staff and the community; property owners and the people who live in structures with asbestos."

While Lapointe stresses that there is still much more work to be done — noting that getting the message out in larger centres has been a challenge — she says the CVRD campaign is a step in the right direction.

"It's a win for them and it's a win for the community," she says. "Ultimately, that also results in better protection of workers, which is the focus of WorkSafeBC."

Unsurprisingly, Brian Duncan is also glad to see his former employer embrace the responsibility of asbestos awareness that municipalities share with employers, workers, and regulatory bodies. And like Lapointe, he also acknowledges that there's still a long way to go.

"Contractors are starting to wear proper respiratory equipment, but there are still people out there who are bucking the system and hiring kids to do this work for cash," he says. "There's this underground economy that we're battling with; that's where the education has to get out to the community. You may save a few bucks, but at the end of the day it's going to cost you

your life ... I'm very careful now, but it's too late for me. Once it's in you, it's not coming out."

To see where asbestos may be hiding in your home, and for resources on how to mitigate the risks of 



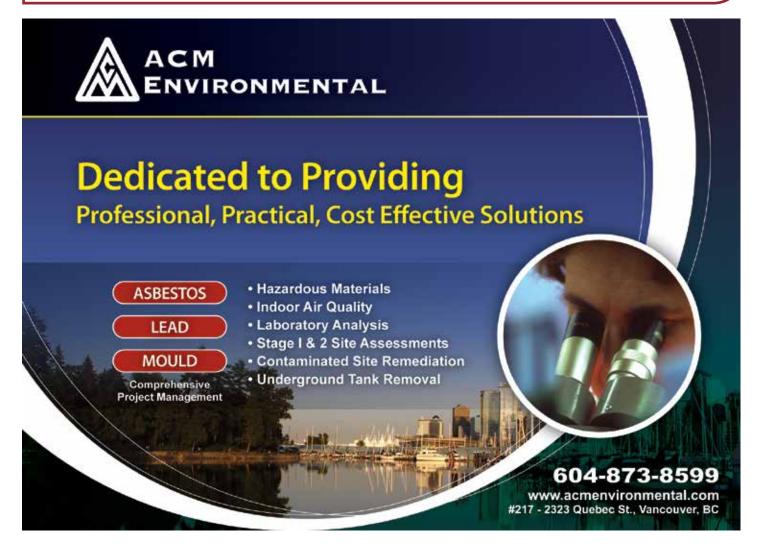
## Be informed about asbestos exposure

It can be difficult to know if you're working with asbestos because it is often mixed with other materials. However, in structures built before 1990, it's likely that at least some parts of the building will include asbestos-containing materials (ACMs).

Some common ACMs are linoleum (vinyl sheet flooring), floor tiles, drywall taping compound, textured decorative finishes on ceilings and walls, spray-in fire protection, cement pipes, and insulation (vermiculite).

Here are five key facts about asbestos that you may not know:

- Once an ACM is disturbed, it is common for asbestos fibres to remain airborne for up to 72 hours (and longer if the area is disturbed). Meaning, exposure can happen for days after initial demolition.
- Ensuring a hazardous materials survey is completed is the shared responsibility of the homeowner and hired contractor.
- The latency period for asbestos exposure ranges from 20 to 50 years.
- Exposure to ACMs is cumulative and there is no way to measure a worker's level of exposure.
- In most cases, illnesses as a result of asbestos exposure are fatal.





Putting cones around a stopped vehicle is a quick and easy way to create space between a worker and passing vehicles. While cone zones are an obvious and necessary safety measure for occupations that work next to traffic all day, such as road construction workers and municipal landscapers, they also help protect workers who stop next to traffic for short periods of time.

Delivery truck drivers need to create a safe work zone when loading and unloading product, but the hassle of digging cones out of the back of a truck for what can be a relatively quick stop can deter some drivers from doing so.

Robert Emanuels, the safety and maintenance manager at Commercial Logistics, wanted to find a way to encourage more of his company's drivers to use safety

cones. Emanuels— who also serves on the board of directors for SafetyDriven (the Trucking Safety Council of BC) — discovered that it wasn't a lack of awareness that was causing the problem, but a difficulty in accessing cones.

"Some people were carrying the cones along but not using them because it wasn't user-friendly or ergonomic," explains Emanuels.

"It's one thing to tell a driver that he needs to use cones," agrees Mark Ordeman, Industry and Labour Services manager at WorkSafeBC. "But if the cones are in some inaccessible place in the trailer then it's a lot less likely that they're going to put them out. The employee will probably think: 'I'm not going to be here that long. It will be okay this time."

Emanuels came up with a quick and easy solution. The company mounted a simple bracket on the driver's side of each delivery truck. The 71 cm (28 in.) cones slip into the bracket in a vertical position and are easily secured with a bungee cord.

#### "I believe every person should have the necessary tools to do the job safely."

-Robert Emanuels, safety and maintenance manager at Commercial Logistics and board member at SafetyDriven

Emanuels drew on his experience hauling fuel in Vancouver to come up with his solution. At the time, his truck had a bracket for holding cones, which were always placed around his work zone in order to prevent other vehicles from driving over product hoses.

"I've seen different bracket designs, but that one seemed to be the best fit because it's the easiest to use. The driver has to walk past the cones to get to the load, and can automatically take them," explains Emanuels. "The easier you make safety, the more likely people are to follow it."

Both the Occupational Health and Safety Regulation and the Canada Labour Code state that employers must ensure that proper traffic control is provided whenever traffic could be hazardous to a worker. This is especially important on busy city roads and in parking lots, where clearly marked unloading zones aren't always present. Room in parking lots can be tight. "People backing out their cars don't see a work area," says Emanuels. "But, there is a much better chance of not running into the railgate if they see cones."

While a cone bracket isn't needed for all types of trucks, it could be useful in situations where the driver needs to set up a short duration cone zone. "I believe every person should have the necessary tools to do the job safely," says Emanuels. "By keeping workers safer, you're setting up a culture that you are a safe company and have high standards. Everybody talks about a return on investment. Here's a way to spend a few dollars on tools, and get back much more."

Emanuels takes equal consideration for public safety. "We're doing this not only for the safety of our drivers but also for the safety of third parties. We give other drivers and pedestrians something else to see to prevent incidents. It's safer for everyone."

"This is a great example of an employer who had a concern for safety, thought about something that was needed, and developed a cost-effective solution" says Ordeman.

Drivers are happy with the solution too. "We have a driver who goes to Whistler every day," says Emanuels. "That's a busy place. He says it's just so easy now that it makes sense for him to use his cones 

### Cone zone = slow down

Cone zones reduce risks, but everyday drivers also need to do their part. Cone zones only work when drivers take heed of them. According to stats from WorkSafeBC, 14 workers were killed and another 226 were injured while working on or beside the road, between 2006 and 2015. If you see cones on the road:

- Slow down and drive with extreme care.
- Stay alert and minimize distractions.
- 3 Think about every cone as if a human being were standing behind it.

More information about roadside safety and setting up proper cone zones can be found on the Cone Zone website. created by WorkSafeBC in conjunction with the Work Zone Safety Alliance and the Justice Institute of British Columbia: conezonebc.com. For information about commercial trucking safety, visit safetydriven.ca.





Your opinion counts when it comes to three proposed changes affecting the Assessment Manual and the Rehabilitation Services & Claims Manual, Volume II.

Public consultation has begun on proposed changes to the following:

- Assessable payroll policies for employers
- Clothing allowances for workers
- The Permanent Disability Evaluation Schedule used in the calculation of permanent disability awards for workers

You can find more information at worksafebc.com/ law-policy/public-hearings-consultations, including how to send us your feedback online or via email, fax, or mail.

Your input will be carefully considered and reviewed before the changes are made.

## Proposed changes to assessable payroll policies

#### What is changing?

We are proposing to consolidate and clarify the policies that set out which payments are included in an employer's assessable payroll. We are also proposing a change that would allow WorkSafeBC to treat payments to registered and non-registered firms in a more consistent way.

#### Why are these changes being made?

We want to make the policy easier for employers to use and understand.

#### How will this affect you?

If you are an employer, the proposed changes would make it easier for you to understand which payments are assessable. If you are currently making payments to non-registered affiliated firms, the changes could mean that you would have less assessable payroll.

#### When is the deadline for your feedback?

The deadline for submissions is September 30, 2016.

#### Proposed changes to clothing allowances

#### What is changing?

The proposed policy changes would clarify the categories of clothing allowances. For example, we propose to remove the distinction between prosthetics and braces in the clothing allowance categories.

#### Why are these changes being made?

Amendments made in 2015 included the addition of an allowance for workers requiring an upper limb or back brace. However, inadvertently, the revisions to the clothing allowances table did not reflect this change. To remedy this, a complete review of the clothing allowances table was undertaken. These proposed changes would simplify the policy and categories of allowances.

#### How will this affect you?

The clothing allowance policy would provide workers with an additional benefit to account for repairing or replacing clothing that is damaged by wearing a prosthesis or brace. For example, some workers who wear a back brace or use a wheelchair may receive an increase in their clothing allowance if the amendments are approved.

#### When is the deadline for your feedback?

The deadline for submissions is October 28, 2016.

#### Proposed changes to the Permanent Disability Evaluation Schedule (PDES)

#### What is changing?

WorkSafeBC's board of directors reviews the PDES on an annual basis. The proposed changes in this review include updates, additional guidance to support decision-making, and consequential amendments for clarification.

#### Why are these changes being made?

The proposed changes would ensure the PDES reflects current medical and scientific information.

#### How will this affect you?

The proposed changes provide additional guidance to decision makers. As such, the impact on how permanent partial disability awards are calculated would be minimal.

#### What is the deadline for your feedback?





While the Paralympians compete in the Summer Olympics this September, a former Canadian Paralympic athlete is training for a unique Olympic-style competition in October, the Cyborg Olympics.

Danny Letain is a former Paralympic downhill skier who lost his left arm below the elbow 35 years ago in a workplace railway accident. The 58-year-old retired railway manager has never let the accident slow him down, however, and he stays active teaching barefooting and waterskiing in Maple Ridge.

Letain currently uses a body-powered artificial limb with a hook and a series of straps that mechanically maneuver the prosthesis.

#### Bionic man

But a robotic arm prosthesis being developed at Simon Fraser University is giving hope to upper limb amputees like Letain. The SFU team's new control system on the advanced bionic hand allows for a variety of different grip patterns that Letain says are "miles beyond" what he could achieve with his prosthetic device. The sensors pick up muscle movement from his stump and move the fingers of his hand.

"It allows me to operate all five fingers individually. It's amazing technology and I'm so excited to be a part of this team," he says.

Letain will travel to Zurich, Switzerland, this October for the inaugural Cyborg Olympics — the first-ever opportunity for individuals with physical disabilities to

compete in six different events using cutting-edge technology.

Danny is the "pilot" member of SFU's eight-person MASS (Mass Activity Sensor Strip) Impact team, joining engineers, scientists, and prosthetists.

He's entered in the Powered Arm Race category, where he'll use the MASS Impact Arm to complete up to 60 everyday tasks, including picking up a paper clip and hanging laundry, in less than eight minutes.

#### WorkSafeBC lends support

Lloyd Deering, special needs officer with WorkSafeBC, said he heard about Letain's involvement in the pilot project and then looked for an opportunity to also participate. Through its community relations funds and the support of Special Care Services, WorkSafeBC is contributing \$1,000 toward Letain's costs to participate in the Cyborg Olympics, which has attracted more than 200 athletes from across the globe. MASS Impact is the only Canadian team.

"I met with Danny and took the information to our Community Relations group. He's definitely stretching the limits, going beyond the norm. Plus, he's advancing new technology, which we support whole-heartedly."

"It allows me to operate all five fingers individually. It's amazing technology."

> —Danny Letain, retired railway manager and competitor in the Cyborg Olympics

Scott McCloy, WorkSafeBC's director of Government, Community and Media Relations, says supporting Letain was "just the right thing to do" given that WorkSafeBC is always working to improve the quality of life for injured workers. And his project meets those objectives.

"Danny got involved in this project all on his own, but when we heard about it, we wanted to help for sure. It supports improvements in the future for injured workers, and we hope the technology will eventually be more accessible for more amputees," he adds.

Currently, the arm is only available for competition; it's not yet ready for everyday use. But once the Cyborg Olympics are over, the SFU team will continue to refine and work on the arm. •



## Fall prevention workshop for construction



#### Who should attend?

If you are a tradesperson, supervisor, safety officer, safety committee member, contractor, or supplier in the construction industry, this one-day safety workshop is for you. Learn from industry experts about fall prevention solutions through hands-on experience.

#### Safety sessions

- Responsibilities for fall prevention in the construction industry
- Fall protection planning and procedures
- Ladders and scaffolding in construction

#### Four hands-on practical sessions

- Planning for safety scenarios and written plans
- Fall protection equipment selection and inspection
- Fall protection options from anchors to horizontal lifelines
- Ladder and scaffold safety from selection to inspection

#### Register today!

#### When?

Saturday, October 15, 2016 8:00 a.m.-4:15 p.m.

Doors open at 7 a.m. Space is limited, so register today

#### Where?

Okanagan College, 1000 KLO Road, Kelowna, B.C.

#### How to register

Go to bccsa.ca/fallsworkshop

#### Cost

\$25 + GST (lunch included)

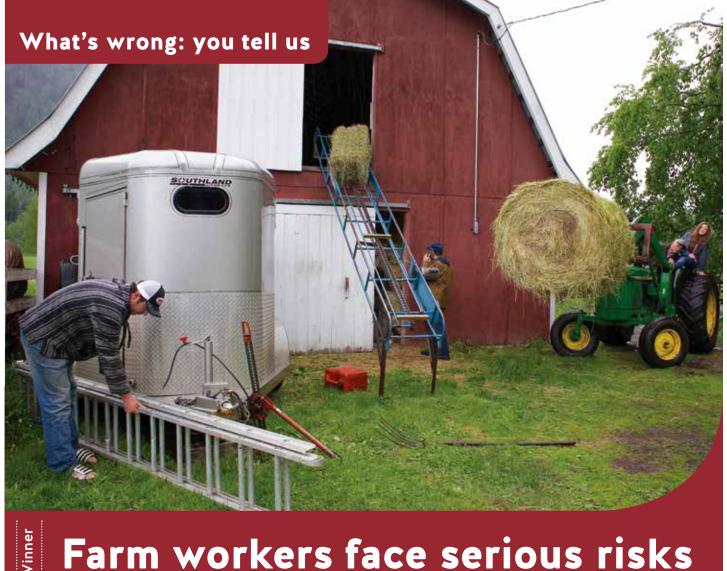
#### For more information

Visit the news & events page on worksafebc.com













**Brad Bryant**, operations supervisor for Arrow Transportation Systems in Quesnel, B.C., is the winner of the May/June "What's wrong with this photo?" contest.

#### Worker getting the ladder

- The worker getting the ladder has poor posture for lifting and is wearing sandals instead of safety boots.
- The ladder being picked up has damaged rungs.
- The worker is not wearing a high-vis vest.

#### Worker by the barn

• The worker by the barn is talking on his cell phone,

has his back to mobile equipment, and is standing under the fall area for the hay bales on the conveyor.

• He is also not wearing a high-vis vest.

#### Workers on the tractor

- There should not be a passenger on the tractor at all, plus she is using the tire for balance, and she is barefoot.
- The workers on the tractor are both leaning out to see around the bale, showing bad ergonomics.

#### The worksite

- The bottom barn door is open under the conveyor.
- The conveyor is not attached to the barn at the top, it has no guard on the chain, and there is no cage around the electrical motor and gear drive.
- The hay bale is not positioned correctly on the conveyor and it's riding on the guard rail.

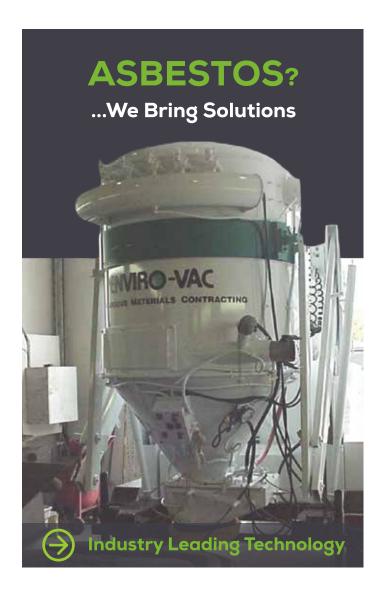
- The fuel can is laying on its side and in the open rather than stored correctly.
- The pitchfork is lying on the ground, creating a trip and poke hazard.
- The trailer is held with a Jackall instead of a correct trailer jack, and the Jackall is leaning over.
- The trailer tire does not have a chock block to prevent it from rolling.

- The cargo trailer has a bare electrical wire and there's some type of cord running along the ground around it, creating a tripping hazard.
- The tractor is carrying too high a load to be able to see where they are going.
- The tractor is working in too close a proximity to the building. 🖲

## Did you know?

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One way of understanding the nature of a job — and the possible exposure to health and safety hazards that goes with it — is through a physical job demand analysis (PJDA). Used to break down the requirements of a specific job or task, these assessments help prevent workrelated injuries and illnesses, and facilitate the return-to-work process.

New technology could change the way PJDAs are carried out, making them far more accurate and reproducible — resulting in better outcomes for workers and employers alike.

Research supported by WorkSafeBC looked at the use of this technology in workers at their actual jobs to gain insight into the nature of their work and test the technology's effectiveness.

#### The traditional observation-based method

PJDAs get down to the nuts and bolts of a task: they capture information on factors like the frequency of activities such as lifting, lowering, pushing, pulling,

bending, and twisting, as well as the muscular forces required to carry out that task. Details like these help with prevention efforts through job design and with sustainable return-to-work plans — it's much easier to find an appropriate post-injury job for a worker with physical limitations if the true job demands, options, and functional abilities are known.

Traditional observation-based PJDAs are compiled through a range of methods, from checklists and questionnaires to video and laboratory assessments of tasks. While helpful, these approaches have limitations: they can be time-consuming and costly, and when limited to performance in a lab setting, may not provide an accurate portrayal of a day-in-the-life.

#### Motion-capture measures biomechanical variables in a new way

A B.C. company called Biosyn Systems has developed a motion-capture system for measuring occupational biomechanical variables. Portable and wireless, this state-of-the-art technology is already used in sports analysis, collecting information on body position and forces in real time while high-performance athletes are in action. In the workplace, the system can measure job-site physical demands and work capacity objectively using biomechanical principles.

The data-collection system is known as Functional Assessment of Biomechanics, or FAB. It uses inertial and force-sensitive sensors that can be worn by workers performing their regular job duties without any impact on their movement or productivity.

"The motion-capture technology improves the evaluator's accuracy while removing subjectivity and observer error, and improving speed of data gathering and productivity," says Russell McNeil, CEO of Biosyn Systems. "With motion capture, we can gather real-world data in seconds with instant analysis."

#### Preliminary research shows real-world applications

With funding from Research Services, researcher Dr. Tyler Amell undertook a proof-of-concept study to better understand the real-world applications of this wearable technology, with the participation of Vancouver's Fairmont Waterfront Hotel. Ten room attendants wore the motion-capture sensors during the regular performance of their duties. The system captured movement and force requirements associated with the job and transferred the information wirelessly to a notebook computer for data collection and analysis. Meanwhile, experienced occupational therapists also delivered traditional PJDAs via direct observation, and the two approaches were compared, both for their clinical relevance and cost.

Dr. Amell's study found that the technology provided a vast amount of valuable physical demand data not usually gathered in conventional PJDAs. The information from the sensors was more detailed and

"This is on the forefront of innovation in terms of injury prevention, reducing the risk of a worker getting hurt or sick on the job, and reintegrating injured workers back into the workplace."

> -Dr. Tyler Amell, lead researcher for the Proof of Concept for an Innovative Approach to Physical Job Demands Analysis

included applied biomechanical forces, accurate percentages of time spent in various body positions, and precise ranges of motion.

"With observations, there's not a high degree of reproducibility," Amell says. "There will be variability among different people observing the same work at the same time, and there's even variability within individual observers. The technology increases the validity of the measures. We found that we could get good, reliable measures at a fraction of the cost, helping with both risk reduction and the return-to-work component."

The sensors captured over 44 hours of data from all ten workers as they performed work in 128 hotel rooms. The occupational therapists conducting traditional PJDAs analyzed data from four workers over four hours in four hotel rooms. Having occupational therapists on site to do an equivalent amount of data collection would be considered cost-prohibitive in most cases.

This kind of data, Amell says, has the ability to be applied on a large scale. It can capture information on a large number of problematic job tasks impacting the affected workers across sectors, from health care to construction.

"This is on the forefront of innovation in terms of injury prevention and reducing the risk of a worker getting hurt or sick on the job and reintegrating injured workers back into the workplace," Amell says. "The technology will allow for improved, objective injury prevention and more successful return-to-work efforts through improved job matching and identification of alternative duties, improving return to work timelines."

#### Putting the technology into practice

As regional manager of Return-to-Work Services for Interior North at WorkSafeBC, Margaret Smithson has done numerous PJDAs over the years. She says she can see the potential for the use of motion-capture sensors in diverse workplaces with the data being used by insurers, employers, disability managers, and occupational health and safety professionals, especially when combined with traditional approaches.

"If we've got someone who comes to us with a strained back, then we want to know what the physical demands on their back are in their regular job and what the opportunities are for modifying their job so we can

get someone back to work successfully," Smithson says. "The sensors allow the analysis to be conducted over a longer period of a time compared to conventional PJDAs.

"The technology is very intriguing," she adds. "I don't see it being used as a standalone, but used in combination with other techniques, it could help guide stay at work, recovery, and return-to-work activities."

#### The role of research in workplace safety

Lori Guiton, WorkSafeBC director of Research Services, says the project is a great example of the way research can help support healthy and safe workplaces.

"Research helps us to develop new approaches to preventing occupational injuries, which protects workers in the longer term," Guiton says. "Using new technology, this sort of collaboration between a researcher and a workplace can go a long way to

making meaningful changes in occupational health and safety."

In support of the development and use of the best scientific evidence on occupational health and safety issues, WorkSafeBC is calling on innovative thinkers to apply for grants through the 2016 Innovation at Work competition. It's open to applicants whose research can lead to the development of new knowledge or practical problem-solving in the workplace. For the first time, applicants have the opportunity to get feedback on their projects before submitting a complete proposal. Applicants can request feedback by indicating this on their letter of intent.

Proposals are also being accepted for WorkSafeBC's Specific Priorities Research Grants until September 16. The current competition aims to develop a better understanding of issues relating to static electricity in a combustible dust environment.

Full application details are available at worksafebc.com. @



#### Construction

#### AAA Roofing Ltd. | \$7,500 | Richmond | February 26, 2016

WorkSafeBC observed two of this firm's workers installing strapping on the roof of a newly built two-storey house. They were not using personal fall protection systems. No other form of fall protection was in place either, exposing them to a risk of falling 8.5 m (28 ft.). The firm failed to ensure that fall protection was used, a repeated and high-risk violation.

#### All Right Trucking-99 Ltd. | \$13,281.56 | Richmond | December 2, 2015

This firm demolished a house owned by a person associated with the firm. When WorkSafeBC inspected the worksite, most of the demolition debris had been removed from the site; however, a pile of debris remained. The firm provided a pre-demolition hazardous materials survey of the house to WorkSafeBC. The survey indicated that no asbestos-containing materials (ACMs) had been identified in the house. WorkSafeBC's inquiries revealed that ACMs had in fact been identified, and that hazardous materials remained in the house when it was demolished. WorkSafeBC determined that the firm had provided false information.

#### Astra Concrete Pumping 1998 Ltd. | \$69,308.26 | Delta | January 29, 2016

This firm's concrete pumper truck was placing concrete at a multi-residential development site when an outrigger failed, causing the truck to tip over toward the passenger side. On its way down the placing boom hose struck and injured a worker. WorkSafeBC's investigation identified several factors that led to the tip-over: The passenger-side outrigger that failed had been positioned on a type of soil that did not allow for safe setup of outriggers. The driver's side outriggers were short-rigged (had not been extended fully) because only one lane of traffic had been closed to accommodate the truck. Cribbing had been used to prop up the passenger-side outriggers, but even had it been safe to set up the outriggers on that type of soil, the cribbing was inadequate. The firm failed to ensure that outriggers on its truck were used according to the placing boom manufacturer's specifications. This was a repeated and high-risk violation.

#### Atti Management Group Inc. | \$1,000 | West Vancouver | January 13, 2016

This firm was the prime contractor at a site where a house was being built. WorkSafeBC inspected the site and found violations of safety requirements. Workers exposed to a risk of falling more than 3 m (10 ft.) were not using personal fall protection systems. Work was being carried out at heights of more than 8 m (25 ft.) but no written fall protection plan was available on site. On upper levels, balconies and openings located above 3 m (10 ft.) did not have guardrails. Work had taken place on these levels before temporary stairs to them had been constructed. The firm failed to do everything reasonably practicable to establish and maintain a system for ensuring compliance with the Workers Compensation Act and the Occupational Health and Safety Regulation. This was a repeated violation.

#### Barnett Construction Ltd. / Barnett Construction | \$11,856.63 | Okanagan Falls | January 26, 2016

This firm was framing a two-level house. WorkSafeBC observed one of the firm's workers standing among the roof trusses, on a narrow wall plate. The worker was not using a personal fall protection system and no other form of fall protection was in place, exposing him to a risk of falling about 6.5 m (22 ft.). Two other of the firm's workers were standing on the open second level, at the unguarded edge. These workers also lacked fall protection, and were exposed to a risk of falling 3.7 m (12 ft.). Ladders in use on the site were the wrong grade and in some cases broken. The firm had not provided a stairway from ground level to the second storey of the house. And the stairwell opening on the second level was unguarded, creating a fall hazard. The firm failed to ensure that fall protection was used. It also failed to provide adequate ladder and stairway access to elevated levels of the house, and to ensure that openings in the floor were securely covered or had guardrails around them. These were repeated and high-risk violations.

#### BCS Contractors Ltd. | \$5,000 | Burnaby | November 19, 2015

This firm provides asbestos abatement services at jobsites where houses are scheduled for demolition. WorkSafeBC ordered the firm to submit a Notice of Compliance with a section of the Occupational Health and Safety Regulation covering procedures for control of asbestos. By December 15, 2014, the firm still had not done so. The firm is being penalized for repeated failure to comply with WorkSafeBC orders.

#### BDC Bull Dozer Construction Ltd. | \$85,827.45 | Kamloops | December 16, 2015

This firm's workers were building a hotel complex. One of its workers was seriously injured in an incident involving a telehandler that was being used to lift materials on the site. A second worker sustained minor injuries. WorkSafeBC's investigation found that the firm had contravened safety requirements for fall protection, lift-truck-mounted work platforms, operator certification, and safe access for delivery of materials. The failure to ensure that fall protection was used was a repeated and high-risk violation. The firm also failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety and failed in general to ensure their health and safety. Both of these latter failures were repeated violations.

#### Camber Construction Ltd. | \$5,344.70 | Central Saanich | March 17, 2016

This firm's worker (who was also a firm representative) was sheathing the roof of a newly built two-storey house. The worker was not using a personal fall protection system and no other form of fall protection was in place. The worker was exposed to a risk of falling about 7 m (23 ft.). The firm's failure to ensure that fall protection was used was a repeated and high-risk violation.

#### Carol Leslie Leek / Davcar Construction | \$2,500 | Sidney | March 2, 2016

WorkSafeBC observed this firm's worker on the roof of a two-storey house under construction. The worker was within 1 m (3 ft.) of the roof's edge and was not using a personal fall protection system. No other form of fall protection was in place, and the worker was exposed to a risk of falling about 6 m (20 ft.). Access to the roof was by a 2 m (7 ft.) stepladder that did not extend the required 1 m (3 ft.) above the landing surface. A supervisor (who was also a representative of the firm) was on site. The firm repeatedly failed to ensure that fall protection was used. It also failed to provide safe ladder access to a work zone, and failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety. These were all high-risk violations.

#### Castlemore Sidings & Woodworks Ltd. | \$2,500 | Abbotsford | November 23, 2015

WorkSafeBC observed two of this firm's workers standing on a ladder-jack scaffold to apply siding to a two-storey house under construction. The workers were wearing fall protection harnesses and were connected to lifelines but were not secured to a proper anchor point. The scaffold did not have guardrails. Both workers were exposed to a risk of falling about 3.4 m (11.5 ft.). The firm failed to ensure that fall protection was used properly, a repeated and high-risk violation.

#### Castlemore Sidings & Woodworks Ltd. | \$5,000 | Abbotsford | March 4, 2016

This firm's crew was installing siding on a two-storey house. WorkSafeBC twice observed one of the firm's workers on the roof without a personal fall protection system. No other form of fall protection was in place. The worker was exposed to a risk of falling 3.8 to 4.5 m (12.5 to 15 ft.). The firm's failure to ensure that fall protection was used was a repeated and high-risk violation.

#### Chuan Qiang Shi / Abian Roofing | \$2,500 | Vancouver | January 14, 2016

Two of this firm's workers were re-roofing the flat roof of a three-storey apartment building. One was working right at the edge of the roof. Neither was using a personal fall protection system, and no guardrails were in place. The workers were exposed to a risk of falling 8.3 m (27 ft.). No supervisor was on site, and neither of the workers had received any training in fall protection. The firm failed to ensure that fall protection was used. It also failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety. These were repeated and high-risk violations.

#### Clifford Aaron MacKenzie / A MacKenzie Roofing | \$2,500 | Victoria | March 29, 2016

WorkSafeBC observed two of this firm's workers on the roof of a two-storey duplex. They were standing about 30 cm (12 in.) away from the roof's edge and were not using personal fall protection systems. No other form of fall protection was in place. They were exposed to a risk of falling 5 m (17 ft.). The site supervisor (a representative of the firm) was on site. The firm failed to ensure that fall protection was used and failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety. These were repeated and high-risk violations.

Administrative penalties are monetary fines imposed on employers for health and safety violations of the Workers Compensation Act and/or the Occupational Health and Safety Regulation. The penalties listed in this section are grouped by industry, in alphabetical order, starting with "Construction." They show the date the penalty was imposed and the location where the violation occurred (not necessarily the business location). The registered business name is given, as well as any "doing business as" (DBA) name.

The penalty amount is based on the nature of the violation, the employer's compliance history, and the employer's assessable payroll. Once a penalty is imposed, the employer has 45 days to appeal to the Review Division of WorkSafeBC. The Review Division may maintain, reduce, or withdraw the penalty; it may increase the penalty as well. Employers may then file an appeal within 30 days of the Review Division's decision to the Workers' Compensation Appeal Tribunal, an independent appeal body.

The amounts shown here indicate the penalties imposed prior to appeal, and may not reflect the final penalty amount. For more up-to-date penalty information, you can search our penalties database on our website at worksafebc.com.

#### D & G Hazmat Services Ltd. | \$2,500 | Richmond | January 15, 2016

WorkSafeBC inspected a jobsite where this firm was conducting moderate-risk asbestos abatement procedures. The firm had no viewing windows at the site to help monitor workers' activities inside containment zones. Nor could it provide evidence of adequate training for its workers. The firm failed to ensure that its workers wore their respirators in the work zone, a repeated and high-risk violation. Overall, the firm failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety.

#### David Nelson Home Builders Ltd. | \$2,500 | Victoria | March 17, 2016

WorkSafeBC observed two of this firm's workers sheathing the roof of a two-storey house under construction. Neither worker was using a personal fall protection system and no other form of fall protection was in place. The workers were exposed to a risk of falling 7 m (23 ft.). The firm's failure to ensure that fall protection was used was a repeated and high-risk violation.

#### Dilworth Quality Homes Inc. | \$17,904.95 | West Kelowna | November 9, 2015

WorkSafeBC made two inspections of a construction site where this firm was the prime contractor and found multiple violations of safety requirements related to fall protection and new worker orientation and supervision. In total, six workers without fall protection systems were exposed to risks of falling 3.4 to 6.5 m (11 to 22 ft.). Anchors were available on the roof of the building under construction, but the site superintendent did not inform workers about them. The firm itself failed to plan and maintain the worksite so as to protect from danger people working there. Overall, the firm failed to do everything reasonably practicable to establish and maintain a system for ensuring compliance with the *Workers Compensation Act* and the Occupational Health and Safety Regulation.

#### Flatout Roofing Ltd. | \$5,001.03 | Saanich | March 3, 2016

This firm was roofing a new two-storey house. The roof had varying slopes (3:12, 5:12, 20:12, and radius type over dormer windows). WorkSafeBC observed one of the firm's workers on the 5:12-sloped portion, without any form of fall protection. The worker was exposed to a risk of falling 6 m (20 ft.). The supervisor (also a representative of the firm) was on site. Also, the ladder providing access to the roof was not secured to ensure stability during use. The firm failed to ensure that fall protection was used and to ensure the stability of the ladder. It also failed to provide the information, instruction, training, and supervision needed to ensure the worker's health and safety. These were all repeated violations, and the lack of fall protection was a high-risk violation.

#### G.L. Roofing Ltd. | \$5,000 | Surrey | March 29, 2016

WorkSafeBC observed two of this firm's workers roofing a newly built two-storey house. One was on a steep entrance roof and the other on a narrow roof overhang. Neither worker was using a personal fall protection system and no other form of fall protection was in place. They were exposed to a risk of falling 3.4 to 3.7 m (11 to 12 ft.). The firm failed to ensure that fall protection was used, a repeated and high-risk violation.

#### Gold Seal Roofing Ltd. | \$2,500 | Esquimalt | January 13, 2016

WorkSafeBC observed two of this firm's workers (including a supervisor) on the roof of a three-storey apartment building. They were not using personal fall protection systems and were working within 1 m (3 ft.) of the edge of the roof. No other form of fall protection was in place. The workers were exposed to a risk of falling as much as 10 m (33 ft.). The firm's failure to ensure that fall protection was used was a repeated and high-risk violation. The firm also failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety.

#### Gordon Albert Gaudet | \$11,677.70 | Coquitlam | January 13, 2016

This firm's worker fell 4.5 m (15 ft.) from the roof of a house when a guardrail broke. The worker sustained serious injuries. WorkSafeBC's investigation found that the guardrails the firm had built did not comply with minimum WorkSafeBC standards. Nor did a supervisor recognize that the guardrails had been built improperly and were unsafe. The firm failed to ensure that guardrails were safely constructed and to have a supervisor properly inspect the guardrails before starting work on the roof. Overall, the firm failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety.

#### Granpepe Construction Inc. | \$7,476.35 | Burnaby | December 15, 2015

This firm was responsible for form-stripping and cleanup work inside a newly built residential tower. Two workers at the site were disassembling a four-tier, 6 m- (20 ft.) high scaffold. One worker fell about 3.7 m (12 ft.) from the scaffold to the concrete floor, sustaining serious injuries. WorkSafeBC's investigation found that the worker who was injured had only been on the job two days and had not received a site safety orientation. The firm failed to ensure the health and safety of workers in its workplace. This was a high-risk violation.

#### Gregory V. Redmond / Onsite Custom Aluminum | \$2,500 | Richmond | March 1, 2016

WorkSafeBC observed this firm's worker standing on a work platform supported by a ladder-jack system, working on a newly built

two-storey house. The worker was not using a personal fall protection system, and no other form of fall protection was in place. The worker was exposed to a risk of falling about 6 m (20 ft.). The firm failed to ensure that fall protection was used, a repeated and high-risk violation.

#### Griffin Restoration Services Inc. | \$3,093.08 | Campbell River | February 2, 2016

This firm carried out asbestos abatement measures at a house that had been water-damaged. A WorkSafeBC officer visited the site after the work was done, and found that no Notice of Project had been submitted to WorkSafeBC as required prior to starting such work. Also, the firm had not submitted detailed written work procedures to minimize risk for workers who may have been exposed to hazardous materials. These repeated violations show a general lack of commitment on the firm's part to compliance with the Occupational Health and Safety Regulation and the Workers Compensation Act.

#### HA Brar Siding & Woodwork Ltd. | \$15,000 | Abbotsford | March 24, 2016

This firm's crew was applying siding to a new two-storey house. WorkSafeBC observed the firm's worker on the roof of a covered deck, exposed to a risk of falling about 5.5 m (18 ft.). The worker was not using a personal fall protection system, nor was any other form of fall protection in place. The firm's failure to ensure that fall protection was used was a repeated and high-risk violation.

#### Hawk Siteworks Inc. | \$2,500 | Burnaby | April 5, 2016

This firm demolished a house. WorkSafeBC inspected the jobsite after the house had been taken down. The firm provided a hazardous materials survey and a clearance letter for the site, but inconsistencies cast doubt on their validity. The firm committed two related violations: before demolition began, it failed to ensure first that a proper hazmat survey was prepared and secondly that a qualified person confirmed in writing that the hazardous materials had been safely removed from the site. These were high-risk violations.

#### Hero Demolition Corp. | \$2,500 | Houston | January 28, 2016

This firm was the prime contractor for the demolition of a defunct sawmill. A worker at the site slipped and fell 5 m (16 ft.) from a raised deck, sustaining serious injuries. WorkSafeBC's investigation found that the firm lacked effective supervision and an effective health and safety program to identify and limit risks to workers at the jobsite. Also, the firm failed to co-ordinate and plan the demolition work safely — despite numerous fall hazards of 3 m (10 ft.) or more throughout the mill, the firm had not installed guardrails or ensured that some other form of fall protection was used for work in such areas. The firm failed overall to ensure the health and safety of workers at its workplace. This was a high-risk violation.



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WORK SAFE BC

## Penalties (continued)

#### Icon Pacific Construction Corp. / Icon Pacific | \$2,500 | Vancouver | November 24, 2015

WorkSafeBC inspected a jobsite where this firm was the prime contractor for the construction of a 53-storey tower. Floors 44 to 47 lacked guardrails, exposing workers on those floors to fall hazards. Some areas close to the unguarded edge were strewn with construction debris. A lack of toeboards meant that these materials could have fallen or been knocked over the edge, posing a hazard to workers and others below. The firm failed to do everything reasonably practicable to establish and maintain a system to ensure compliance with the *Workers Compensation Act* and the Occupational Health and Safety Regulation. This was a repeated violation.

#### James Jordan Anthony Grant / Cityscape Industries | \$2,500 | Victoria | January 22, 2016

This firm was renovating a three-unit house. WorkSafeBC inspected the worksite and found three of the firm's workers (including a supervisor) performing interior and exterior demolition work without safety precautions or personal protective equipment. Their work included disturbing potentially asbestos-containing materials. The firm had collected samples of some disturbed materials at the house and had these tested for asbestos pre-demolition by a third party. However, the firm failed to collect and have tested sufficient representative samples of other disturbed materials. The firm failed to have any samples tested for hazardous material content other than asbestos. A test of one substance disturbed at the site showed that it contained 10 percent chrysotile asbestos. The firm failed to have a qualified person inspect the worksite, collect representative samples, and produce a written hazardous materials survey based on the lab results. Further, the firm failed to ensure that all this was done before demolition began. These were repeated and high-risk violations.

#### K. D. S. Construction Ltd. | \$50,406.71 | New Westminster | March 23, 2016

This firm was the prime contractor for the demolition of a sports bar in a casino. The work involved dismantling a golf simulator room in the bar. The ceiling of the simulator collapsed unexpectedly, seriously injuring a worker performing cleanup duties inside. WorkSafeBC's investigation found that the firm did not ask its subcontractor on site in charge of the demolition for safe work procedures and did not require the subcontractor to develop such procedures. These failings show that as prime contractor, the firm failed to ensure the health and safety of workers at its workplace, including failing to plan, use, and maintain its worksite so as to protect from danger persons at the site. It also failed to do everything reasonably practicable to establish and maintain a system for ensuring compliance with the *Workers Compensation Act* and the Occupational Health and Safety Regulation. These were repeated and high-risk violations.

#### K.P. Excavating & Demolition Ltd. | \$1,000 | New Westminster | March 31, 2016

WorkSafeBC inspected a jobsite where this firm had demolished a house. A representative of the firm could not provide the required hazardous materials survey or clearance letter for the property. The firm failed to have available at the worksite a written hazmat survey. It also failed to have a qualified person ensure and confirm in writing that hazardous materials identified at the site had been safely removed before it began demolition work. These were repeated violations.

#### Khela Excavating Ltd. | \$13,288.38 | Burnaby | December 4, 2015

WorkSafeBC inspected a jobsite where this firm had prepared a bulk excavation for the construction of a house, with a depth of about 10.6 m (35 ft.). The firm conducted the excavation work without first obtaining written instructions from a qualified professional. A stop-work order was issued. This was a repeated and high-risk violation.

#### Khela Excavating Ltd. | \$39,865.13 | Surrey | January 19, 2016

WorkSafeBC inspected debris from the demolition of a pre-1990 house and found materials that could potentially contain asbestos. The firm had not submitted a Notice of Project for asbestos abatement. Given the risk of workers being exposed to asbestos, WorkSafeBC issued a stop-work order. The firm had not had a qualified person inspect the premises to identify hazardous materials, as required before work began. This was a high-risk violation.

#### Kloot Construction Ltd. | \$25,452.97 | Surrey | March 29, 2016

This firm's crew was building a barn. WorkSafeBC inspected the worksite and observed two of the firm's workers on the sloped roof. They were not using personal fall protection systems, nor was any other form of fall protection in place. They were exposed to a risk of falling 5.5 m (18 ft.). The firm failed to ensure that a fall protection system was used, a repeated and high-risk violation.

#### Lauma Properties Ltd. | \$1,000 | Saanich | January 27, 2016

WorkSafeBC inspected a worksite where this firm was the prime contractor for the construction of a new house. The firm had not submitted a Notice of Project – Construction to WorkSafeBC as required for a project whose total cost of labour and materials exceeds \$100,000. The firm was ordered to submit a Notice of Compliance with the relevant sections of the Occupational Health and Safety Regulation. The firm did not comply with this order. Its failure to submit a Notice of Project – Construction was a repeated violation.

#### Madge Contracting Ltd. | \$28,559.28 | Kelowna | January 20, 2016

This firm was re-roofing a two-storey motel. The firm had set up caution tape strung between traffic delineators along one edge of the flat roof. Workers on the roof were not using personal fall protection systems. They were exposed to a risk of falling about 6 m (20 ft.) to a metal disposal bin when they accessed the roof via a ladder. Guardrails would have been practicable to protect them from this hazard, but the firm had built only one guardrail along a very short section of the roof's edge. The roof had a parapet about 64 cm (25 in.) high. The site supervisor stated that the parapet wall provided adequate fall protection, yet it would need to be 102 to 112 cm (40 to 44 in.) to comply with WorkSafeBC requirements. The firm's failure to ensure that adequate fall protection was used was a repeated and high-risk violation.

#### Mueller Construction Inc. | \$2,500 | Revelstoke | March 29, 2016

Two of this firm's workers were installing soffit on the upper-level roof overhang of a new commercial building. They were standing on painter's scaffolds on the sloping lower roof of the building. Neither worker was using a personal fall protection system, nor was any other form of fall protection in place. They were exposed to a risk of falling more than 3.4 m (11 ft.). The firm's failure to ensure that fall protection was used was a high-risk violation.

#### MVC Contracting Ltd. | \$2,500 | Burnaby | December 15, 2015

This firm supplied labourers to another firm that was performing cleanup tasks inside a new residential tower. One of its labourers was helping another worker at the site disassemble a four-tier, 6 m (20 ft.) high scaffold. The labourer fell about 3.7 m (12 ft.) from the scaffold to the concrete floor, sustaining serious injuries. The firm's failure to ensure that fall protection was used was a high-risk violation.

#### Nathan Paul Fairlie / Fairlie Construction | \$2,500 | North Saanich | March 3, 2016

This firm's worker and a representative of the firm were on the roof of a two-storey house under construction. Neither was using a personal fall protection system, nor was any other form of fall protection in place. They were exposed to a risk of falling more than 6 m (20 ft.) The firm's failure to ensure that fall protection was used was a repeated and high-risk violation.

#### North Central Roofing Ltd. | \$7,500 | Prince George | January 12, 2016

WorkSafeBC inspected a site where a duplex was being re-roofed and saw two of this firm's workers (including a representative of the firm) on the roof. Neither worker was using a personal fall protection system and no other form of fall protection was in place. They were exposed to a risk of falling more than 3.7 m (12 ft.). Also, the firm representative was using a nail gun but was not wearing safety eyewear as required. The firm failed to ensure that fall protection was used, a high-risk violation, and to ensure that its workers used safety eyewear. Overall, the firm failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety. These were all repeated violations.

#### Nova Drywall Ltd. | \$71,390.69 | Burnaby | February 2, 2016

This firm had set up a baker's scaffold for its workers to use at its jobsite inside a newly built residential tower. WorkSafeBC identified deficiencies with the scaffold's maintenance and setup. While the scaffold was being disassembled one of the firm's workers was exposed to a risk of falling as much as 6 m (20 ft.). The firm failed to ensure that fall protection was used for work where a fall of 3 m (10 ft.) or greater could occur. This was a repeated and high-risk violation.

#### Nu-Vue Exteriors Ltd. | \$8,857.03 | Kamloops | November 23, 2015

This firm's crew was building a six-storey apartment complex. The balconies did not have guardrails. WorkSafeBC saw the firm's supervisor on a sixth-floor balcony without a proper personal fall protection system. The supervisor was exposed to a risk of falling about 18 m (60 ft.). The firm's failure to ensure that fall protection was used was a repeated and high-risk violation.

#### Prominent Industries Ltd. | \$3,655.48 | Victoria | November 17, 2015

WorkSafeBC inspected a site where this firm's crew was power washing an apartment building. One worker was standing on a fourth-storey balcony accessed by a ladder that was set up improperly, at too steep an angle. The worker was exposed to a risk of falling about 8.3 to 9.5 m (27 to 31 ft.). The firm failed to provide safe access to the worker's work area and to ensure that the ladder was long enough to enable the worker to work safely. It also failed to instruct the worker on how to use the ladder safely — even though a representative of the firm was on site acting as supervisor for the work. These shortcomings show that the firm failed in general to ensure the health and safety of workers at its workplace.

#### Rahal Construction Ltd. | \$3,292.48 | Burnaby | February 29, 2016

Four of this firm's workers (including a representative of the firm) were on the partly sheathed roof of a two-storey house under

#### Penalties (continued)

construction. None was using a personal fall protection system and no other form of fall protection was in place. The workers were exposed to a risk of falling about 6.5 m (22 ft.). None of the workers had any proof of having received fall protection training. The firm failed to ensure that fall protection was used (a high-risk violation) and to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety. These were both repeated violations.

#### RVS Custom Homes Ltd. | \$3,250 | Maple Ridge | October 20, 2015

This firm owned a house that was due to be demolished. The firm hired two workers to remove drywall from the house and transport it off site. While the workers were performing the work, without any hazmat controls or personal protective equipment, WorkSafeBC inspected the site. The firm had commissioned a hazmat survey of the house, which had found asbestos on site. The firm committed a high-risk violation by starting demolition activities without removing identified hazardous materials.

#### Sabre Construction 2011 Inc. | \$2,500 | Vancouver | March 4, 2016

This firm's crew was working at a site where a multi-level house was under construction. The second level of the house was open and had no guardrails around its perimeter. One of the firm's workers was standing at the edge and was not using a personal fall protection system. No other form of fall protection was in place, exposing the worker to a risk of falling 5 m (16 ft.). A representative of the firm was on site with a clear view of the worker but did not correct the unsafe work practice. The firm failed to ensure that fall protection was used, a high-risk violation. It also failed to provide its worker with the information, instruction, training, and supervision needed to ensure the worker's health and safety. These were repeated violations.

#### Seoryong Jang / SR Roofing & Sheet Metal | \$2,500 | Burnaby | March 18, 2016

This firm was re-roofing a house that had been damaged by a tree. WorkSafeBC observed two of the firm's workers on the roof without personal fall protection systems or any other type of fall protection. They were exposed to a risk of falling 4.5 m (15 ft.). The firm's failure to ensure that fall protection was used was a repeated and high-risk violation.

#### SSB Siding & Soffits Ltd. | \$6,882.66 | Burnaby | March 18, 2016

This firm's workers were installing soffit on a newly built two-storey house. WorkSafeBC observed one of the workers moving along the perimeter of a narrow skirt roof. The worker was not using a personal fall protection system and no other form of fall protection was in place, exposing the worker to a risk of falling 5 m (16 ft.). The firm failed to ensure that fall protection was used, a repeated and high-risk violation committed knowingly or with reckless disregard.

#### Standard Insulation & Siding Ltd. | \$37,559.05 | Surrey | January 29, 2016

At a jobsite where this firm was working on a four-storey multi-residential building, WorkSafeBC observed the firm's worker on a fourth-floor balcony, standing on the pony wall of the balcony. The worker was not using a personal fall protection system, nor was any other type of fall protection in place. The worker was exposed to a risk of falling about 10.6 m (35 ft.). The firm's failure to ensure that fall protection was used was a repeated and high-risk violation.

#### Stewart Arnold Newstead / Armor Roofing | \$2,500 | Hixon | January 8, 2016

WorkSafeBC observed a representative of this firm and one of its workers installing shingles on the roof of a church. Neither was using a personal fall protection system and no other form of fall protection was in place. They were exposed to a risk of falling as much as 5 m (16 ft.). The firm's failure to ensure that fall protection was used was a repeated and high-risk violation, committed knowingly or with reckless disregard.

#### Todays Hazmat Solutions Inc. | \$2,500 | Langley | November 20, 2015

WorkSafeBC performed two inspections of a jobsite where a house was being renovated. This firm's workers were removing asbestos-containing materials (ACMs) from the interior of the house. Hazardous materials surveys had identified ACMs at the site. Also, improperly bagged and labelled demolition debris had been piled in the carport and loaded into a van for transportation off site - the latter in violation of federal and provincial requirements for the movement of hazardous materials. The firm's failure to ensure that ACMs were safely removed from the jobsite was a high-risk violation.

#### Tom Cat Demolition Ltd. | \$8,885.30 | New Westminster | February 22, 2016

This firm was subcontracted to perform demolition activities at a sports bar in a casino. The work involved dismantling a golf simulator room in the bar. A worker was in the simulator cleaning up debris when the ceiling collapsed. The worker sustained serious injuries. WorkSafeBC's investigation found that Tom Cat failed to develop safe work procedures for dismantling the simulator and failed to adequately brace the standing walls when the floor was removed. It also failed to plan, use, and maintain its worksite so as to protect from danger persons at the site. These were high-risk violations.

#### Triple J Pipelines Ltd. | \$14,557.02 | Dawson Creek | December 22, 2015

WorkSafeBC inspected a jobsite where this firm's crew was lifting pipes on a pipeline right-of-way. A side boom used by the workers was not equipped with a rollover protective structure (ROPS). The work location did not qualify as one where mobile equipment could be used without a ROPS. This was a repeated violation.

#### TT Contractor's Ltd. | \$38,853.91 | West Kelowna | October 27, 2015

This firm was upgrading a water main at a site next to a busy highway. The firm dug an excavation, one end of which was 2.5 m (8 ft.) from the shoulder of the highway. The excavation was about 1.5 m (9 ft.) deep at its deepest point and about 2.75 m (5 ft.) deep in the region closest to the highway. The firm allowed its workers to work in the excavation despite having failed to dig the excavation in accordance with the written instructions of a registered engineer, as required for such a site. This was a high-risk violation.

#### West Style Roofing Ltd. | \$5,947.50 | Surrey | November 5, 2015

WorkSafeBC observed two of this firm's workers positioning tarps on the steep roof of a house. The workers were wearing fall protection harnesses but were not connected to lifelines. They were exposed to a risk of falling about 6 m (20 ft.). A representative of the firm was at grade with a clear view of the workers on the roof. The firm's failure to ensure that fall protection was used was a high-risk violation.

#### Yongle Contracting Ltd. | \$2,500 | Surrey | December 2, 2015

This firm was conducting asbestos abatement measures at a pre-1990 house due for demolition. WorkSafeBC inspected the jobsite and found that its decontamination facility lacked the required shower, among numerous other infractions of the requirements for handling asbestos removal. The firm committed a high-risk violation by allowing work that disturbed asbestos-containing materials to take place without having taken necessary precautions to protect its workers. The firm also failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety.

#### Yongle Contracting Ltd. | \$2,500 | Delta | December 23, 2015

This firm was conducting asbestos abatement measures at a pre-1990 house. When WorkSafeBC inspected the jobsite, demolition work was underway on the interior. Two separate hazardous materials surveys (one conducted before the inspection and one after) found asbestos-containing materials (ACMs) on the premises. The firm failed to take necessary precautions to protect workers from ACMs, and failed to safely contain or remove hazardous materials before starting demolition of the interior. These were repeated and high-risk violations.

#### Yongle Contracting Ltd. | \$5,000 | Burnaby | March 30, 2016

This firm was responsible for conducting asbestos abatement measures at a pre-1990 duplex. The firm had issued a hazardous materials survey for one of the units and a clearance letter stating that all hazardous materials had been removed from the duplex. WorkSafeBC investigated and found that the firm failed to safely contain or remove hazardous materials before interior demolition and removal of non-asbestos-containing material began at the site. This was a repeated and high-risk violation.

#### Manufacturing

#### 0904329 B.C. Ltd. / DBA Pacific Timber/Sheraton Sawmill | \$29,040 | Burns Lake | January 11, 2016

A worker was troubleshooting a machine at this firm's mill and was caught in a chain conveyor, sustaining serious injuries. WorkSafeBC's investigation found that neither the chain conveyor nor the machine being worked on had been locked out at the time of the incident. It also found deficiencies in the firm's training and procedures around lockout — for instance, not all workers had received training on lockout, and not all workers possessed their own locks. The firm failed to ensure that energy-isolating devices were locked out on machinery shut down for maintenance. The firm also failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety. These were repeated and high-risk violations.

#### Canadian Forest Products Ltd. / Canfor | \$15,000 | Vanderhoof | January 14, 2016

WorkSafeBC inspected this firm's sawmill and observed hazardous accumulations of combustible dust in several areas. WorkSafeBC's investigation found that the firm was not effectively implementing its combustible dust management program. Therefore, the firm failed to ensure the health and safety of its own and other workers at its workplace.

#### Carrier Lumber Ltd. | \$30,000 | Prince George | January 6, 2016

WorkSafeBC inspected this firm's sawmill and observed hazardous accumulations of combustible dust in several areas of the mill.

#### Penalties (continued)

WorkSafeBC found that the firm's cleanup program was missing areas that it should have included and that the program was not being adhered to properly. The firm failed to ensure the health and safety of its own and other workers at its workplace. This was a repeated violation.

#### Catalyst Paper Corporation | \$75,000 | Crofton | March 18, 2016

This firm operates a pulp and paper mill. A truck driver unloading wood chips fell into an unguarded pit at the mill and sustained fatal injuries. WorkSafeBC's investigation found that Catalyst had transferred responsibility for safe work practices at the pit to the contracted firm that employed the truck driver. As a result, Catalyst failed to recognize that unsafe work practices had developed. Also, Catalyst's training program contained conflicting information as to which firm was responsible for giving truck drivers specific training for the work zone around the pit. Therefore, Catalyst did not perform a risk assessment for the truck driver's work, did not provide written safe work procedures for it, and did not guard the pit to prevent workers falling into it. As the prime contractor, Catalyst failed to ensure that the activities of employers, workers, and other persons at its workplace relating to health and safety were coordinated. It also failed in general to ensure the health and safety of workers at its workplace.

#### East Fraser Fiber Co. Ltd. | \$65,235.12 | Mackenzie | December 11, 2015

This firm's worker sustained serious injuries in an incident involving a ripsaw. WorkSafeBC's investigation found that lockout procedures had not been followed fully. Lockout procedures for the ripsaw were complex and were not posted anywhere near the machine. The firm failed to ensure that the energy source for a machine that could cause injury was isolated and effectively controlled, a repeated and high-risk violation.

#### Goldband Shake & Shingle Ltd. | \$12,342.83 | Mission | March 16, 2016

This firm's new worker was drawn into the tail spool of a conveyor belt and sustained fatal injuries. WorkSafeBC's investigation found that the firm had not ensured that accessible nip points on conveyor belts were guarded to prevent contact by workers. It also found that the conveyor involved in the incident lacked an emergency stopping system and had to be shut down at the power source. Finally, it found that the firm lacked documentation to show that the worker had received adequate health and safety orientation and training. These repeated and high-risk violations show that the firm failed overall to ensure the health and safety of its workers.



#### Greenwood Forest Products (1983) Ltd. | \$16,786.70 | Penticton | February 3, 2016

This firm operates a mill. A worker tripped on a step and fell, sustaining serious injuries from contact with a trim saw. WorkSafeBC investigated the incident and found that the saw blade was inadequately guarded. The guard was not adjusted properly and did not cover the back of the blade. The firm's failure to ensure that workers could not access hazardous points of operation on its machinery was a repeated and high-risk violation.

#### H & S Marble Industries Ltd. | \$2,500 | West Vancouver | March 31, 2016

One of this firm's workers and two other workers were unloading a granite slab from a pickup truck when the truck rolled down a steep driveway and across the road. The three workers sustained injuries, some of them serious. WorkSafeBC's investigation found that the truck had been inadequately maintained; as a result, it did not stay in park properly in this instance. Also, it had not been properly chocked. The firm failed to conduct regular safety inspections of its equipment, and failed to ensure that equipment in its workplace was capable of safely performing the functions it was used for. These deficiencies show that the firm failed overall to ensure the workplace health and safety of its own workers and those of other firms.

#### Hi-Tech Acrylic Products Inc. | \$12,323.48 | New Westminster | November 13, 2015

This firm manufactures bathtubs. WorkSafeBC found that the firm was allowing workers to spray styrene-based resin onto bathtubs in a general work area. The area lacked controls to protect workers against the toxicity hazard and against fire and explosion hazards. The firm failed to design, install, and maintain a ventilation system for controlling airborne contaminants in its workplace. It also contravened restrictions on work with resins by allowing workers to spray such products in a general work area that lacked effective fire, explosion, and toxicity controls.

#### Kan Wood Ltd. | \$10,317.88 | Surrey | December 14, 2015

A worker at this firm's sawmill sustained serious injuries while cleaning up sawdust. WorkSafeBC's investigation found that a re-saw machine had been shut down for cleaning but not locked out and that related conveyor belts had been left running. The injured worker had not been given a health and safety orientation or job-specific training, and the firm lacked written lockout procedures for the equipment. The foreman on shift was not knowledgeable about lockout procedures. The firm failed to ensure that energy-isolating devices on equipment that was shut down for maintenance (in this case, cleaning) had been locked out as required. This was a high-risk violation.

#### Nu Style Doors Ltd. / Nu Style Doors Ltd. | \$11,251.50 | Surrey | March 7, 2016

A fire broke out at this firm's cabinet-making shop, damaging the dust-collection system. The firm installed a new dust-collection system, which WorkSafeBC then inspected. The firm was ordered to provide evidence that the system had been installed, inspected, and tested (and was being maintained) as specified by a professional engineer. The firm failed to submit this evidence in a reasonable time.

#### Partap Forest Products Ltd. | \$30,958.08 | Maple Ridge | October 30, 2015

This firm operates a planer mill. The firm's worker was standing on a makeshift walkway to repair an elevated piece of machinery when he lost his balance and fell about 4 m (14 ft.), sustaining serious injuries. The firm failed to ensure that fall protection was used, as required for work where a fall of 3 m (10 ft.) or more may occur. This was a high-risk violation.

#### PBF Pita Bread Factory Ltd. | \$18,877.65 | Burnaby | January 18, 2016

This firm's worker sustained serious injuries while using emery cloth strips to polish metal stock on a lathe. WorkSafeBC's investigation found that the worker had been left unsupervised with no work tasks assigned. He had not received adequate training on the lathe (nor had his co-workers). Also, the cover assembly of the lathe did not sufficiently guard its moving parts. The firm failed to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety. This was a repeated and high-risk violation.

#### Pinnacle Renewable Energy Inc. | \$55,989.25 | Burns Lake | December 21, 2015

This firm operates a pellet mill. Workers at the mill were preparing to clean out a combustion system used to dry waste wood when an explosion occurred in the system. Three of the workers sustained serious injuries. WorkSafeBC's investigation found that multiple violations of health and safety requirements contributed to the incident. The equipment involved was not used in accordance with adequate safe work procedures, and maintenance of the equipment was not carried out according to the manufacturer's instructions. The firm had not provided adequate instruction and training to its maintenance and production departments that would have enabled them to co-ordinate their activities around common lockout procedures. Finally, as the prime contractor the firm failed in general to ensure that the activities of employers, workers, and other persons at its workplace relating to health and safety were coordinated. These were all high-risk violations.

## Penalties (continued)

#### Richmond Elevator Maintenance Ltd. | \$150,000 | Richmond | January 27, 2016

At a high-rise under construction, two of this firm's workers, including a foreman, were testing two elevators, working on two separate electrical panels. The foreman got called away to another jobsite; the other worker stayed behind. The foreman rode one elevator to the ground floor, then went to the main electrical disconnect switches for the elevators and mistakenly turned on the switch for the elevator the other worker was working on. The other worker received an electric shock and sustained serious injuries. WorkSafeBC's investigation found that although the elevator switches were in the off position during the testing, they were not locked in that position. No site-specific written work procedures existed for testing the elevators. The firm failed to ensure that an energy-isolating device was secured in the safe position using locks according to written procedures made available to all workers required to work on the device. The firm also failed overall to provide its workers with the information, instruction, training, and supervision needed to ensure their health and safety. These were repeated and high-risk violations.

#### Trapp Avenue Industries Ltd. / George Third & Son | \$38,486.04 | Burnaby | January 6, 2016

This firm's worker was seriously injured while working with a metal plate rolling machine. WorkSafeBC's investigation found that the firm had introduced a new work procedure for the machine (wrapping the rolls with cardboard) without conducting a hazard assessment. The firm had not developed safe work procedures or lockout procedures for the machine. It had not provided its workers with adequate training in the new work procedure. Finally, the firm failed to provide its workers with the supervision needed to ensure their health and safety. Taken together, these violations created a high risk of injury to the firm's workers.

#### West Fraser Mills Ltd. | \$75,000 | 100 Mile House | November 6, 2015

This firm operates a sawmill. A worker at the mill sustained serious injuries while performing maintenance on a waste conveyor during a shutdown of the mill. Guarding for the conveyor's pneumatic controls did not meet the applicable CSA standard, allowing the worker to access a hazardous area (the still-energized pneumatic system). Further, the worker was not adequately supervised, and the mill's risk assessment procedures were not adhered to. The firm failed to ensure that energy-isolating devices were locked out before maintenance work was performed. It also failed in general to ensure the health and safety of workers at its workplace. These were high-risk violations.

#### **Primary Resources**

#### 0864245 B.C. Ltd. | \$4,620.45 | Campbell River | January 22, 2016

This firm's worker became entangled in the bit of a gas-powered auger, sustaining serious injuries. WorkSafeBC's investigation found that the auger lacked effective safeguarding to prevent workers from contacting the rotating drill bit. Also, the firm had not provided its workers with instruction or training in lockout procedures for the auger and the worker had not been effectively trained. The firm failed to ensure the health and safety of its own and other workers at its workplace. This was a high-risk violation.

#### A.F. Timber Co. Ltd. | \$6,921.70 | Nelson | March 7, 2016

This firm's workers were harvesting trees on a steep cutblock using a cable-yarding system. The yarder's skyline cable deflected, hitting a leave tree, which fell and hit one of the workers. The worker sustained fatal injuries. WorkSafeBC's investigation found that the force required to yard the trees hooked up to the cable was much greater than the yarding system's capacity. (The chokerman had not been trained in yarding around leave trees, nor given information about the yarder's capacity.) Further, high winds a few days earlier had felled other leave trees of the same type, but the firm had not performed a risk assessment on the leave tree in question to ensure it was stable. The firm failed to fall or assess the leave tree, as required for dangerous trees. It also failed to provide its workers with the information, instruction, training, and supervision needed to ensure their own and other workers' health and safety. These were high-risk violations.

#### Anju Soni & Vivek Soni / Durga Blueberry Farms | \$2,500 | Burnaby | January 15, 2016

This firm demolished a house that it owned. WorkSafeBC inspected the jobsite after the house had been taken down and found that the firm had not identified hazardous materials and removed them safely as required. A clearance letter provided by the firm claimed that asbestos abatement had been completed at the site, but the hazmat survey for the property stated that no asbestos-containing materials had been present before demolition. This and other inconsistencies in the clearance letter and the hazmat survey cast doubt on their validity. The firm committed two related violations: before demolition began, it failed to ensure first that a proper hazmat survey was prepared and secondly that a qualified person confirmed in writing that the hazardous materials had been safely removed from the site. These were high-risk violations, committed knowingly or with reckless disregard.

#### Ban Van Dinh | \$3,250 | Sidney | December 1, 2015

This firm's worker was on a dock helping a representative of the firm unload crabs from a suspended tote into a pickup truck. The worker was struck by the loaded tote and fell about 3.4 m (11 ft.) from the truck bed onto the deck of the firm's boat docked below, sustaining serious injuries. Neither the worker nor the firm representative had been using a personal fall protection system. Nor did the injured worker have a personal flotation device on. The firm failed to ensure that fall protection was used in a location where a fall of 3 m (10 ft.) or more could take place, a high-risk violation. Also, the firm's failure to have adequate first aid equipment and supplies and a certified first aid attendant available at the worksite contravened first aid requirements.

#### Ban Van Dinh | \$2,500 | Sidney | January 28, 2016

This firm's worker was setting crab pots from the firm's vessel at sea. The worker was not wearing a personal flotation device (PFD) or a restraint harness. The firm failed to ensure that a worker at risk of drowning wore a PFD. This was a repeated and high-risk violation.

#### Black Mount Logging Inc. | \$46,358.14 | Squamish | December 16, 2015

This firm was the prime contractor of a heli-logging operation on a small, extremely steep cutblock. A worker working on contract for the firm sustained serious injuries while falling trees. WorkSafeBC's investigation determined that brushing had occurred when a tree was felled. The felled tree had struck a standing tree on its way down, breaking the limbs off the standing tree and breaking off the felled tree's top. This was a high-risk violation. Overall, the firm failed to ensure the health and safety of the workers at the workplace.

#### Bluespruce 5280 Contracting Ltd. | \$2,500 | Sayward | December 4, 2015

WorkSafeBC inspected this firm's worksite, a forestry operation in a remote area. One of the firm's workers was working alone, handfalling trees on an extremely steep slope (about 75 percent). Just above the worker, previously felled trees were lying unstably on the slope, posing a risk to the worker. There was no one on site to provide first aid to the worker. The firm committed two violations: it allowed the hand faller to work right below the felled trees, where the worker could be endangered by that work; and it failed to ensure that its forestry activities were planned and conducted according to the Occupational Health and Safety Regulation and with safe work practices acceptable to WorkSafeBC. These were both high-risk violations, and the latter was a repeated violation.

#### Budda Can Enterprises Inc. | \$2,500 | Squamish | December 4, 2015

This firm's worker (also a representative of the firm) was hired by the prime contractor of a heli-logging operation to fall trees on a small, extremely steep cutblock. The firm's worker was working with another worker, an employee of the prime contractor, who was not a certified faller. The firm's worker sustained serious injuries in a falling incident involving a 31.5 m (103 ft.) tall hemlock tree. WorkSafeBC's investigation found that the firm contravened manual falling regulations by allowing the uncertified worker to enter the active falling area, by allowing work to continue in the hazard area of a partially cut tree, and by not ensuring that all workers were at least two tree-lengths away from the hemlock before it was felled. These failings show that the firm failed overall to ensure the health and safety of its worker. These were high-risk violations.

#### Chanchal Bal / Valley Orchards & Valley Maintenance & Operations | \$6,989.88 | Kelowna | February 11, 2016

This firm was constructing a commercial building as part of its orchard operations. WorkSafeBC observed another firm's worker on the roof of a staircase tower, installing siding on a cupola. The worker was not using a personal fall protection system and no other form of fall protection was in place. The worker was exposed to a risk of falling about 13.7 m (45 ft.). Access to the tower roof also posed a fall hazard — a ladder used to reach the roof was set up on an unguarded balcony, exposing the worker to a risk of falling 6.5 m (22 ft.). The firm in its role as qualified coordinator for the jobsite failed to ensure that hazards were addressed on site. As prime contractor the firm also failed to do everything reasonably practicable to establish and maintain a system for ensuring compliance with the Workers Compensation Act and the Occupational Health and Safety Regulation. This was a high-risk violation.

#### EMP Fishing Inc. / EMP Fishing | \$2,500 | Port Hardy | March 29, 2016

This firm's worker was setting prawn traps from the stern of the firm's vessel. The worker died after becoming entangled in the ground line for the traps and being pulled overboard into 12°C (54°F) water. WorkSafeBC's investigation found that the firm had not ensured that the worker wore a personal flotation device for the task. Nor did the firm ensure that the setting station had a knife capable of cutting the line or establish written safe work procedures for setting the traps. These high-risk violations showed that the firm failed to ensure the health and safety of workers in its workplace.

#### Manpreet S. Gill & Kamalpreet S. Gill / Manpreet Gill Orchard | \$2,500 | Oliver | December 24, 2015

This firm leased an orchard and a tractor from a worker. The worker was seriously injured in an accident with the tractor and a flail mower attached to it. WorkSafeBC's investigation found that among other deficiencies, the tractor's brakes and power steering were not working. The firm failed to maintain the tractor (as required under the lease agreement with the worker). Also, the firm had not

#### Penalties (continued)

provided the required orientation and training to the worker for working in the orchard. Finally, the firm lacked a health and safety program and procedures for checking the well-being of workers working alone. These failings show that the firm failed overall to ensure the health and safety of its own and other workers at its workplace.

#### Sofina Foods Inc./Aliments Sofina Inc. | \$75,000 | Port Coquitlam | December 23, 2015

This firm operates a poultry processing plant. In fall 2014, an ammonia spill occurred at the plant, which had to be evacuated. WorkSafeBC attended the worksite and found that the firm had no safe way to measure ammonia levels inside the plant. Two managers had also entered the plant at separate times, without required personal protective equipment, placing themselves at high risk of serious injury. Further, the firm had not developed an exposure control plan for ammonia. WorkSafeBC's investigation also found that the spill was due in part to corroded carbon-steel ammonia piping, and that the firm failed to conduct regular inspections of ammonia piping systems in the plant. These were repeated violations.

#### **Public Sector**

#### Town of Lake Cowichan | \$21,810.66 | Lake Cowichan | January 27, 2016

This employer allowed demolition work to take place on a pre-1990 building without ensuring that a hazardous materials survey was conducted on the premises prior to demolition. Before demolition work began, the firm failed to have a qualified person inspect the premises to identify hazardous materials, prepare an inventory of all ACMs, and perform a risk assessment on the ACMs identified in the inventory. This was a repeated and high-risk violation.

#### **Service Sector**

#### BC Hydro & Power Authority | \$75,000 | New Westminster | March 16, 2016

This employer was performing work at a substation as part of a large upgrade project. One of its workers was seriously injured in an electrical incident while working from a ladder. WorkSafeBC's investigation found that a busbar should have been de-energized for the work and that a safer method of access to the work zone, such as a work platform with guardrails, should have been used. It also found that the risk assessment that was performed for the work was not specific enough; that safe work procedures for the task were inadequate; and that no rescue procedures for high-angle work were in place for the jobsite. The employer failed to ensure that workers at the site could maintain the required limits of approach to the equipment, and failed overall to ensure the health and safety of its workers. These were high-risk violations.

#### Bayside Property Services Ltd. | \$46,673.68 | Langley | February 29, 2016

This firm manages a large pre-1990 apartment complex. The firm allowed renovation work to proceed at the site without first obtaining a hazardous materials survey. Potentially asbestos-containing materials were removed from the buildings. The firm did not meet its obligation as an employer to have a qualified person inspect the premises to identify hazardous materials, as required before work began. This was a high-risk violation.

#### British Columbia Emergency Health Services / BC Ambulance Service & HealthLinkBC | \$15,000 | Vancouver | January 25, 2016

In two separate incidents, two of this employer's workers sustained serious injuries. WorkSafeBC investigated the incidents and ordered the employer to develop safe work practices for the two tasks that triggered the injuries, and train its workers in them: transferring very heavy patients into ambulances using large body plates; and transporting patients who require oxygen down flights of stairs with their oxygen tanks with only two workers. The employer failed to comply with WorkSafeBC orders within a reasonable time.

#### British Columbia Emergency Health Services / BC Ambulance Service & HealthLinkBC | \$15,000 | Richmond | **January 26, 2016**

At a large commercial construction site, an injured construction worker had to be evacuated from the fifth floor of a building. Two of this employer's workers attended the injured worker and accompanied the worker to ground level in a semi-enclosed emergency work platform suspended from a tower crane. The employer's workers did not use the fall protection gear available in the work platform, and they were exposed to a risk of falling as much as 12 m (40 ft.). WorkSafeBC ordered the employer to develop and provide hazard recognition and fall protection training to its workers. The employer failed to comply with a WorkSafeBC order within a reasonable time.

#### C - Best Environmental Ltd. | \$6,000 | Nanaimo | February 23, 2016

This firm conducted a hazardous materials survey of a house slated for demolition. WorkSafeBC inspected the premises and found that the firm had failed to collect representative samples of suspected asbestos-containing materials (ACMs). The firm had also not identified quantities or sampling locations for all the materials it collected. The firm failed to have a qualified person inspect the worksite, collect representative samples, and produce a written hazardous materials survey based on the lab results. This was a repeated failure by the firm to monitor and assess workplace exposure to ACMs using occupational hygiene methods acceptable to WorkSafeBC.

#### C - Best Environmental Ltd. | \$30,000 | Burnaby | April 5, 2016

This firm conducted a hazardous materials survey of a house slated for demolition. WorkSafeBC inspected the premises and found that the firm had failed to collect representative samples of potentially asbestos-containing materials (ACMs). This was a repeated failure by the firm to monitor and assess workplace exposure to ACMs using occupational hygiene methods acceptable to WorkSafeBC.

#### Connaught Motor Inns Ltd. / Connaught Motor Inn | \$36,570.48 | Prince George | April 11, 2016

WorkSafeBC identified several safety violations when it inspected this firm's worksite. For example, the firm required staff working alone at night to enter guest rooms to address disturbances and altercations. The employer did not perform a risk assessment or establish procedures and policies to eliminate or otherwise minimize the risk to workers. The firm also failed to provide adequate lighting in stairwells, basements, and other areas of its premises. The firm failed to address these hazards in a reasonable time. These were repeated violations.

#### ESS Environmental Ltd. | \$5,000 | Vancouver | April 5, 2016

WorkSafeBC inspected a site where a house was being readied for demolition. This firm had performed a hazardous materials survey of the house that was inconsistent with other survey results for the same property. WorkSafeBC ordered the firm to submit sampled material and a laboratory report on the material. The firm's failure to comply with the order was a repeated violation.

#### Grassroots Drilling Inc. / Fox Contracting | \$3,309.88 | Nanaimo | January 29, 2016

This firm was removing asbestos-containing materials from a house scheduled for demolition but was not using proper controls for high-risk asbestos removal work. The firm failed to have a qualified person inspect the premises to conduct a risk assessment before demolition work began. The firm also failed to provide its workers with task-specific work direction that addressed the worksite hazards and the necessary controls. These were repeated and high-risk violations.

#### Traveland Leisure Vehicles Ltd. / Traveland RV Supercentre | \$12,950.79 | Langley | October 20, 2015

This firm operates a recreational vehicle sales and service centre. WorkSafeBC ordered the firm to provide a first aid attendant with a Level 2 certificate. The firm failed to comply with the WorkSafeBC order in a reasonable time. This was a repeated violation.

#### WIP (III) Management Corp / GP for WIP (III) Investment Limited Partnership | \$13,451.08 | Langley | March 1, 2016

This firm owns a large pre-1990 apartment complex. The firm allowed renovation work to proceed at the site without first obtaining a hazardous materials survey. Potentially asbestos-containing materials were removed from the buildings. The firm failed to meet its obligation to have a qualified person inspect the premises to identify hazardous materials before work began. This was a high-risk violation.

#### Trade

#### Fir Stone Inc. | \$16,155.62 | Richmond | November 6, 2015

This firm operates a distribution warehouse for stone slabs. WorkSafeBC inspected the warehouse and observed a below-the-hook lifting device attached to a bridge crane. The firm was using this device contrary to the manufacturer's instructions, and as a result, a worker was seriously injured. The firm failed to ensure that equipment in its workplace was safe to use and was used in accordance with the manufacturer's instructions. This was a high-risk violation.

#### Valutex Enterprises Ltd. | \$1,294.78 | Surrey | January 22, 2016

This firm was found to have taken discriminatory action against one of its workers. In January 2015, WorkSafeBC ordered the firm to compensate its worker with a cash payment. By October 2015, the firm had paid the worker only a fraction of the amount owing. The firm is being penalized for its failure to comply with WorkSafeBC orders within a reasonable time, a violation of section 115(1)(b) of the Workers Compensation Act.

#### Transportation and Warehousing

#### Tom's & Merritt Towing Ltd. | \$19,180.91 | Merritt | January 18, 2016

A tow truck driven by this firm's worker was parked at the edge of a busy highway. A crash ensued in which four non-workers and an RCMP constable were injured, some seriously. (The worker was not injured.) WorkSafeBC's investigation found that the firm failed to ensure that effective traffic control was used in a hazardous traffic situation. It also failed to provide its worker with the information, instruction, training, and supervision needed to ensure the health and safety of its own and other workers. These were repeated and high-risk violations.



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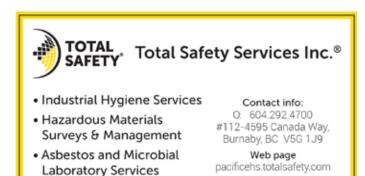
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