

G26.30 Traffic control when falling a tree

Issued July 15, 2019; Editorial Revision October 28, 2019

Regulatory excerpt

Section 26.30 of the *OHS Regulation* ("Regulation") states:

If, in any type of falling activity, a tree being felled may create a hazard to a user of a road, effective traffic control must be used to stop or control approaching traffic.

Purpose of guideline

The purpose of this guideline is to provide guidance on when effective traffic control is required if a tree is being felled in an area that may create a hazard to a road user.

Determining when effective traffic control is needed

Section 26.1 of the *Regulation* defines the active falling area as a 2-tree length radius of where a faller or mechanized falling equipment is located to fall a tree. For the purposes of section 26.30, a hazard is deemed to be present within this falling area, or when a roadway passes within 2-tree lengths of the tree being felled.

G26.65 Determining cab guard compliance

Issued August 4, 2015

Regulatory excerpt

Section 26.65 of the *OHS Regulation* ("Regulation") states, in part:

(1) In this section:

"*cab guard*" means a barrier guarding the back of the cab of a log transporter;

"*certified welding inspector*" means a person who is certified as a Level 2 or Level 3 welding inspector in accordance with *CSA Standard W178.2-08 (R2013), Certification of Welding Inspectors*;

"*rated capacity*", in relation to a cab guard, means the maximum cargo weight that may be transported by the log transporter and shift and contact the cab guard such that the cab guard is capable of withstanding a horizontal forward static load equal to 40% of that cargo weight, with this load uniformly distributed over the entire cab guard.

(2) For the protection of the driver of a log transporter, the log transporter must have a cab guard that meets all of the following requirements:

(a) subject to subsection (3), the cab guard is at least 15 cm (6 in) higher than the cab;

(b) the cab guard is at least as wide as the cab;

(c) the cab guard has no opening large enough to permit any item of cargo to pass through it;

(d) the cab guard is

(i) constructed with a main supporting structure made of steel, or

(ii) certified by a professional engineer as having a main supporting structure designed and constructed so that vibration and distortion generated by use of the log transporter cannot damage the cab guard;

(e) the cab guard is installed in a manner that ensures that the rated capacity of the cab guard is not diminished.

(3) The cab guard of a self-loading log transporter may be less than the height specified in subsection (2)(a) but must not be less than the cab height.

...

(6) A log transporter must be removed from service if there are any cracks, damage or other conditions that will decrease the rated capacity of the cab guard of the log transporter.

(7) A log transporter removed from service under subsection (6) must not be returned to service until

(a) the cab guard is

(i) repaired, and

(ii) inspected and certified to meet the rated capacity by the manufacturer, a professional engineer or a certified welding inspector, or

(b) the cab guard is replaced by a cab guard that meets the requirements of this section.

(8) The cab guard of a log transporter must be

(a) permanently marked with

(i) the name and address of its manufacturer,

(ii) the model number or serial number of the cab guard, and

(iii) the rated capacity of the cab guard, or

(b) identified by carrying in the log transporter a copy of a letter that

(i) accurately describes the barrier cab guard,

(ii) certifies the model number or serial number of the barrier cab guard and the rated capacity of the cab guard, and

(iii) has been signed by the manufacturer or a professional engineer.

Purpose of guideline

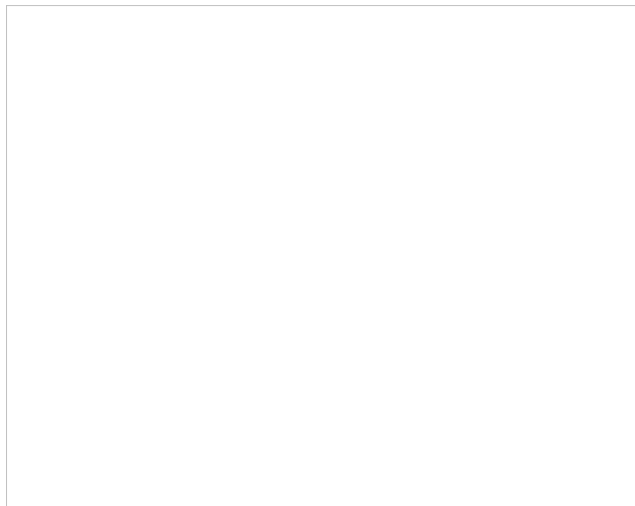
The purpose of this guideline is to assist workplace parties in determining whether a cab guard complies with section 26.65 of the *Regulation*. This includes the method of determining cab guard height and width and when aluminum may be used. The guideline also discusses WorkSafeBC's approach to cab guards that are not compliant with certain requirements of section 26.65.

Cab guard height

The purpose of a cab guard is to create a life space for a driver and passenger in the event that the logs shift towards the cab. The cab guard should absorb the load and allow logs to travel over the top of the driver and passenger areas. In order to do so, the cab guard must be 15 cm taller than the cab area of the log transporter under section 26.65(2)(a), or as tall as the cab area for a self-loading log transporter under section 26.65(3).

When the cab guard requirement was introduced in 1941, log transporter cabs had flat roofs. For these vehicles, cab height could be easily measured at the back of the cab roof, thus ensuring the cab guard protected the driver and passenger areas. This traditional measure, shown in *Diagram 1: Traditional cab measure*, remains an acceptable method of compliance with sections 26.65(2)(a) and 26.65(3).

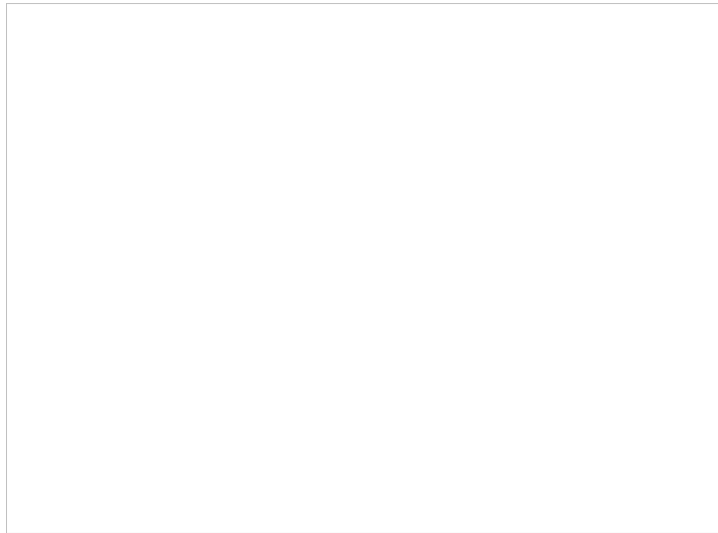
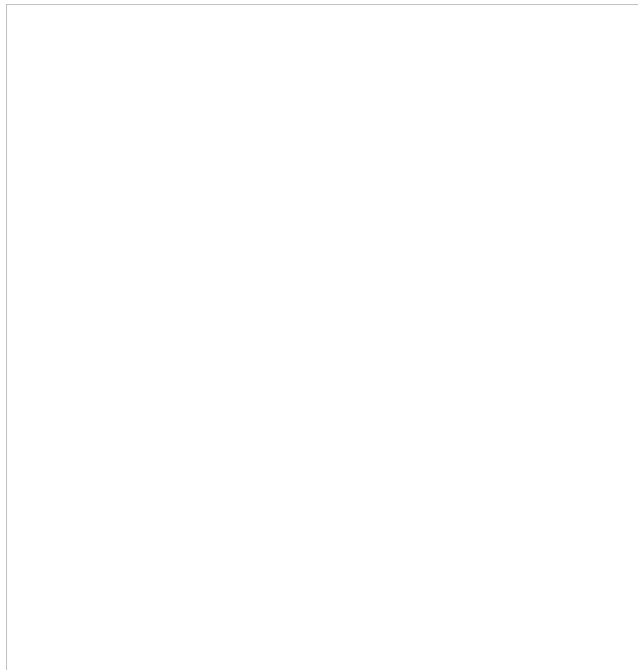
Diagram 1: Traditional cab measure



In recent decades, a number of developments in the design of log transporters, including sloped roofs, sleeper compartments, and air foils, have made the traditional measure difficult for some vehicles. To recognize these changes, WorkSafeBC accepts other measures of cab height. These alternative measures, like the traditional measure, must ensure that the driver and passenger area in a moving log transporter are protected. This requires determining the maximum height that the driver or passenger's head can be during normal driving.

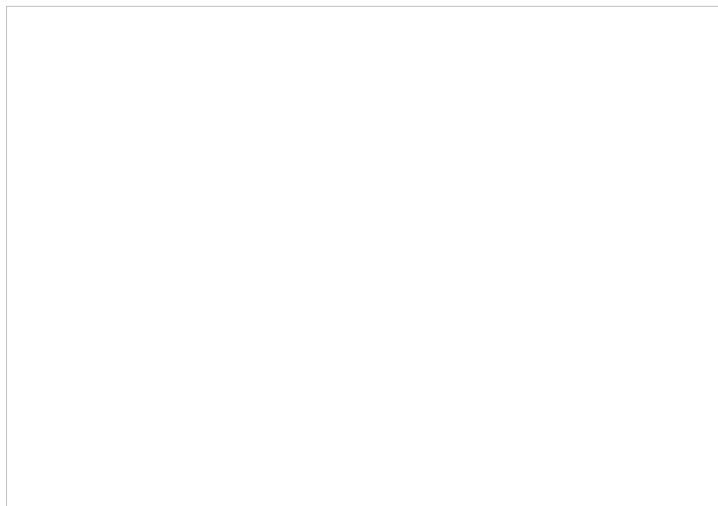
In most log transporters, the interior ceiling immediately above the driver may be used to determine cab height. This point marks the maximum height that a person's head can be while the log transporter is in motion, regardless of seat positioning. Measures of this point can be taken from the floor of the cab. For example, in many cabs, the space from the floor of the cab to the ceiling above the driver will be 147 cm (58 in). This alternative measure is shown in *Diagram 2: Interior ceiling cab measure*.

Diagram 2: Interior ceiling cab measure



In some log transporters, the top of the windshield will also be an acceptable measure of cab height. This is only the case where the driver and passenger's heads will be located below the top of the windshield regardless of seat positioning. This alternative measure is shown in *Diagram 3: Windshield cab measure*.

Diagram 3: Windshield cab measure



The cab does not include components that have been added to the exterior of the vehicle or behind the cab and are not intended to be occupied while the log transporter is in motion. Typical items that are not included in the cab for purposes of measuring height include the following:

- Exhaust stacks

- Lights
- Horns
- Air dams/wind deflectors that are not structurally integrated into the roof
- Sleeper compartments

The top of the cab guard will ordinarily be measured from the top structural cross-bar that extends across the entire width of the cab guard.

Cab guard width

In addition to extending 15 cm above the cab, cab guards must also be as wide as the cab. This means the cab guard must be as wide as the driver and passenger area. Items that are located outside the driver and passenger area do not form part of the cab for the purposes of measuring width. Items that would typically not be included in width measurements include the following:

- Driver and passenger side mirrors
- Exhaust stacks
- Wheel fenders
- Steps or handles used to assist in getting into the cab

Use of aluminum in cab guards

Section 26.65(2)(d) requires that the main supports of the cab guard are either made of steel or have been certified by an engineer as being designed and constructed so that vibration and distortion will not damage the cab guard.

Aluminum distorts when exposed to the typical conditions of log transporting, significantly reducing its rated capacity and ability to withstand loads placed upon it. Accordingly, many aluminum cab guards may not be able to comply with section 26.65(2)(d). While section 26.65(2)(d) does permit materials other than steel to form the main supports, the intention of this option is to allow for advances in materials that perform equal or better than steel with regard to exposure to vibration and distortion. This may allow supporting structures made of materials other than aluminum or steel, or combinations of aluminum and steel. Before any supporting structure that is not all steel is acceptable, an employer must obtain an engineering certificate confirming that the structure will withstand vibration and distortion without damage.

Aluminum may be used to form other parts of the cab guard. For example, aluminum may be used to enclose the space between the supporting structure's frame, ensuring that there are no openings large enough to allow a log to pass through the cab guard.

All cab guards, regardless of the material used, must have a rated capacity. This may be determined by the manufacturer, or certified by a professional engineer.

Bringing cab guards into compliance

Where a cab guard does not comply with one or more of the requirements in sections 26.65(2)(a) to 26.65(2)(d), but is of sufficient condition to nonetheless provide protection to the driver in the event of a rapid deceleration or shifting of the load, WorkSafeBC prevention officers will not write the log transporter out of service. Instead, prevention officers will require the employer to provide a compliance plan, outlining the steps that the employer will take to correct the non-compliance. For example, where the cab guard does not comply with the height, width, or size of opening requirement (sections 26.65(2)(a) through (c)), steps an employer may take to come into compliance may include the following:

- Obtaining a retrofitting kit from the manufacturer and installing it as per the manufacturer's instructions
- Having the cab guard modified as per the instructions of a professional engineer
- Replacing the cab guard

Where a cab guard does not comply with the requirement to be made of steel supporting structures, or otherwise certified by an engineer to withstand vibration and distortion (section 26.65(2)(d)), steps will be as follows:

- Obtaining certification from a professional engineer that the supporting structure is capable of withstanding vibration or distortion
- Replacing the cab guard

Prevention officers will provide employers with a reasonable amount of time to identify the steps the employer will take to bring the particular cab guard into compliance. This amount of time will take into account the particular issues identified by the prevention officer, and the time it would take to consider the applicable options to correct those issues. Once the steps are identified, prevention officers will similarly provide employers with sufficient time to implement the required changes.

Removing log transporters from service

Section 26.65(6) requires an employer to remove a log transporter from service anytime there are cracks, damage, or other conditions that will decrease the rated capacity of the cab guard. Employers are not required to remove log transporters from service where the deficiency in the cab guard will not affect the cab guard's rated capacity. Where an employer is uncertain about whether a deficiency affects rated capacity, the employer should obtain a second opinion. This may include consulting with the manufacturer or a professional engineer. Further, where the manufacturer specifies types of deficiencies that will require removal from service, the employer may use this information as a guide.

Deficiencies that will typically affect rated capacity and warrant removing the log transporter from service include the following:

- Observable cracks, damage, or holes cut into the main structural supports
- Observable cracks or damage in the welds on the main structural supports
- Inadequate connections between the cab guard and the truck frame

Lesser deficiencies that will not affect rated capacity should be promptly addressed by the employer, but will not require the employer to remove the log transporter from service. Prevention officers, when inspecting cab guards, will work with the employer to assess whether or not any identified deficiencies require the log transporter to be removed from service. Where the deficiency clearly affects rated capacity, the prevention officer will likely require the log transporter to be removed from service. In other instances, the prevention officer will work with the employer to set out a reasonable amount of time for the employer to correct the deficiency.

Returning log transporters to service

Where a log transporter is removed from service, either by the employer or by a prevention officer, the employer may either replace the cab guard or repair the deficiencies. If the employer repairs the deficiencies, section 26.65(7) requires the employer to have the repairs inspected and certified as meeting the cab guard's rated capacity. This inspection and certification may be done by the manufacturer, a professional engineer, or a certified welding inspector.

In many cases, it may be difficult for employers to have the manufacturer, a professional engineer, or a certified welding inspector inspect the repairs in person. Accordingly, it is acceptable for the inspection to take place remotely. This may be done by providing the individual doing the inspection with all the necessary information, including photos and descriptions of the work that was done, for the individual to inspect the equipment. Whether or not the particular inspection can be done remotely, and what information is necessary to conduct the inspection, is a decision to be made by the individual performing the inspection.

Where the repair was to a defect that did not affect rated capacity, and therefore did not require removing the log transporter from service, the repair does not need to be inspected and certified under section 26.65(7).

Off-highway log transporters

Some heavy-duty, off-highway log transporters are equipped with a steel water tank behind the cab. This water tank supplies water to the brakes as a coolant. WorkSafeBC is presently working with industry and engineering firms to determine how section 26.65 applies to these vehicles.

G26.65(1) Certified welding inspector — Alternate standards

Issued consequential to February 1, 2015 Regulatory Amendment

Regulatory excerpt

Sections 26.65(1) of the *OHS Regulation ("Regulation")* states in part:

(1) In this section:

...

"certified welding inspector" means a person who is certified as a Level 2 or Level 3 welding inspector in accordance with *CSA Standard W178.2-08 (R2013), Certification of Welding Inspectors*;

...

Section 4.4(2)(a) of the *Regulation* states:

(2) When this Regulation requires a person to comply with

(a) a publication, code or standard of the Board or another agency, the person may, as an alternative, comply with another publication, code or standard acceptable to the Board ...

Purpose of guideline

The purpose of this guideline is to specify, in the case of section 26.65(1) of the *Regulation*, alternative standards acceptable to WorkSafeBC for the certification of a welding inspector.

Background information

Section 26.65(1) of the *Regulation* requires that a certified welding inspector be certified as a Level 2 or Level 3 welding inspector in accordance with *CSA Standard W178.2-08 (R2013), Certification of Welding Inspectors ("2008 Standard")*.

Section 4.4(2)(a) permits WorkSafeBC to accept another standard as an alternative standard.

Acceptable alternative standards

Canadian Standards Association (CSA)

WorkSafeBC has determined that *CSA Standard W178.2-14, Certification of Welding Inspectors ("2014 Standard")* is an acceptable alternative to the *2008 Standard* referenced in section 26.65(1).

The *2014 Standard* is the sixth edition of *CSA W178.2, Certification of welding inspectors*. *CSA Standard W178.2* is a certification standard for welding inspectors which states requirements for skills, competence, work experience, professional ethics, and physical requirements. *CSA Standard W178.2* also states criteria for issuing, maintaining, and revoking certified welding inspector certification. The Canadian Welding Bureau ("CWB") is stated within the body of *CSA Standard W178.2* as the sole administrator of this standard.

The CWB administers welding inspector certification according to the latest version of *CSA Standard W178.2*. The *2014 Standard* differs from

the 2008 Standard around qualified supervision, experience and training, code of ethics, examinations, and, re-certification requirements.

G26.65(2)(e) Installing the cab guard on the log transporter in a manner acceptable to WorkSafeBC

Issued consequential to February 1, 2015 Regulatory Amendment

Regulatory excerpt

Section 26.65(2) of the *OHS Regulation* ("Regulation") states:

- (2) For the protection of the driver of a log transporter, the log transporter must have a cab guard that meets all of the following requirements:
- (a) subject to subsection (3), the cab guard is at least 15 cm (6 in) higher than the cab;
 - (b) the cab guard is at least as wide as the cab;
 - (c) the cab guard has no opening large enough to permit any item of cargo to pass through it;
 - (d) the cab guard is
 - (i) constructed with a main supporting structure made of steel, or
 - (ii) certified by a professional engineer as having a main supporting structure designed and constructed so that vibration and distortion generated by use of the log transporter cannot damage the cab guard;
 - (e) the cab guard is installed in a manner that ensures that the rated capacity of the cab guard is not diminished.

Section 4.3(2) of the *Regulation* states:

Unless otherwise specified by this Regulation, the installation, inspection, testing, repair and maintenance of a tool, machine or piece of equipment must be carried out

- (a) in accordance with the manufacturer's instructions and any standard the tool, machine or piece of equipment is required to meet, or
- (b) as specified by a professional engineer.

Purpose of guideline

The purpose of this guideline is to provide direction about acceptable installation of a cab guard on a log transporter under section 26.65(2)(e).

Installation in a manner acceptable to WorkSafeBC

WorkSafeBC considers any one of the following methods to be acceptable in meeting the requirements for installing a cab guard of the log transporter under section 26.65(2)(e):

- One of
 - The cab guard of the log transporter is installed in accordance with the manufacturer's instructions and any standard the cab guard is required to meet (refer to section 4.3(2)(a) of the *Regulation*)
 - The cab guard of the log transporter is installed as specified by a professional engineer (refer to section 4.3(2)(b) of the *Regulation*)The fasteners for attaching the cab guard should be not less than grade 5 and not more than grade 8 quality.
- The cab guard of the log transporter carrying a load of logs weighing up to 84,000 lbs (38,100 kg) is installed so that each cab guard will, at a minimum, be attached to the log transporter by the equivalent of two 7/8 or 1 inch UNF grade 8 bolts (rods) with substantial tie straps. This is preferable to the use of U-bolts. The fastener's torque must meet the manufacturer's specifications. A spacer is often installed in the open section of the tractor C frame to help support the required torque.
- The cab guard of the log transporter carrying a load of logs weighing up to 84,000 lbs (38,100 kg) is installed so that each cab guard will, at a minimum, be attached to the log transporter by the equivalent of one of the following:
 - Six 3/4 inch grade 8 bolts on each side, three of which must be separated by approximately 5.5 inches starting from about 2 inches from the end at the front and rear of the 34-38 inch angle iron sill
 - Two 1 inch grade 8 U-bolts with bottom plates on each side, one at the front and one at the rear of the 34-38 inch sill or sub frame
 - Four 3/4 inch grade 8 bolts and one 1 inch grade 8 U-bolt on each side (U-bolt at the back towards the trailer)
 - Three 7/8 inch grade 8 U-bolts on each side (two U-bolts in the back and one at the front of the barrier)Also, when attaching the cab guard using U-bolts as described above
 - The fastener's torque must meet the manufacturer's specifications. A spacer is often installed in the open section of the tractor C frame to help support the required torque
 - The bend radius between the inside of the legs and the inside of the top of the bolt must be at least 3/4 inches
 - The U-bolt must closely fit the clamped components to avoid corner bending

Under [section 4.8\(2\)\(b\)](#) of the *Regulation*, if the cab guard attachment system has been modified in a manner which will change its rated capacity or rated load, the rated capacity or rated load must be certified by a professional engineer. Unauthorized modification may lead to equipment

failure and operator injury.

G26.65(4) Log transporters pulling multiple trailers

Issued May 17, 2006; Editorial Revision May 1, 2008; Revised consequential to February 1, 2015 Regulatory Amendment

Regulatory excerpt

Sections 26.65(1), (2), and (4) of the *OHS Regulation* ("Regulation") state:

(1) In this section:

"cab guard" means a barrier guarding the back of the cab of a log transporter;

"certified welding inspector" means a person who is certified as a Level 2 or Level 3 welding inspector in accordance with *CSA Standard W178.2-08 (R2013), Certification of Welding Inspectors*;

"rated capacity", in relation to a cab guard, means the maximum cargo weight that may be transported by the log transporter and shift and contact the cab guard such that the cab guard is capable of withstanding a horizontal forward static load equal to 40% of that cargo weight, with this load uniformly distributed over the entire cab guard.

(2) For the protection of the driver of a log transporter, the log transporter must have a cab guard that meets all of the following requirements:

(a) subject to subsection (3), the cab guard is at least 15 cm (6 in) higher than the cab;

(b) the cab guard is at least as wide as the cab;

(c) the cab guard has no opening large enough to permit any item of cargo to pass through it;

(d) the cab guard is

(i) constructed with a main supporting structure made of steel, or

(ii) certified by a professional engineer as having a main supporting structure designed and constructed so that vibration and distortion generated by use of the log transporter cannot damage the cab guard;

(e) the cab guard is installed in a manner that ensures that the rated capacity of the cab guard is not diminished.

(4) The weight of cargo that is being transported by a log transporter and that may shift and contact the cab guard must not exceed the rated capacity of the cab guard.

Purpose of guideline

This guideline provides direction on how to calculate the weight of cargo being transported by a log transporter that may shift and contact the cab guard to determine the strength of the cab guard required under section 26.65(4).

Calculation of the weight of cargo being transported that may shift and contact the cab guard

Under section 26.65(4) of the *Regulation*, the weight of the cargo being transported that may shift and contact the cab guard must not exceed the rated capacity of the cab guard. When log transporters are pulling multiple trailers the cargo being transported may be carried on a second, and possibly a third trailer. Generally, the following is used to determine whether the weight of the trailers may shift and contact the cab guard:

- 100% of the load directly behind the bulkhead is considered to be able to shift and contact the cab guard
- 50% of the second trailer's load is considered to be able to shift and contact the cab guard
- 25% of the third trailer's load is considered to be able to shift and contact the cab guard

Calculating the rated capacity of the cab guard required under 26.65(4)

In order to calculate the strength of the cab guard, the rated capacity of the cab guard must withstand at least 40% of the load directly behind the driver, plus one half of 40% of the load in the second trailer, plus one quarter of 40% of the load in the third trailer.

Note: These calculations assume the following:

- The load is uniformly distributed and there is not a point load
- The overall length of truck tractors and semi-trailers does not exceed the requirements of the *BC Commercial Transport Regulations*, B.C. Reg. 30/78 as amended

Example

Consider a total load of 100 tons with 50 tons directly behind the barrier and 25 tons on each of two attached trailers. The barrier needs to have a horizontal static load rating of: $0.4 \times 50 \text{ tons} + 0.4 \times 0.5 \times 25 \text{ tons} + 0.4 \times 0.25 \times 25 \text{ tons} = 27.5 \text{ tons}$

G26.68 Binder cinches

Issued March 5, 2013

Regulatory excerpt

Section 26.68 of the *OHS Regulation* ("*Regulation*") states:

- (1) Unless the centres of all logs lie below the level of the top of the stakes on a log transporter, at least 2 binders must be installed to restrain the logs before the transporter is moved.
 - (1.1) If the logs are preloaded onto a trailer, the binders required under subsection (1) must be installed immediately after the loading and before the trailer is connected to the tractor of the logging truck.
- (2) A loaded log transporter may be moved within the loading area without the binders required under subsection (1) if no worker is exposed to the risk of a falling log or other falling debris.
- (3) If logs or log chunks could roll or slide off the log transporter, or the logs or log chunks are not contained within stakes, at least 2 binders must be used to secure the logs regardless of the height of the load.
 - (3.1) All binders that must be in place before a load of logs may be transported must be put on
 - (a) as soon as practicable after loading, and
 - (b) in a location in close proximity to the loading area.
 - (3.2) Loads or logs must not be moved or shifted while binders are being applied or adjusted.
 - (3.3) A binder on a load of logs must be checked and kept tight during transportation of the logs.
- (4) Each binder and attachment must have a breaking strength of at least 53 kN (12,000 lbs).
- (5) Bundle straps or banding must not be used as binders to restrain logs during hauling.
 - (5.1) Subsection (5) does not apply in a loading area if no worker is exposed to the risk of a falling log or other falling debris.
- (6) Binders must be positioned on the load so that they can be safely removed while the load restraining equipment is in position.

Section 26.1 of the *Regulation* states:

"*binder*" means a wire, synthetic rope, chain or other device that is secured by a cinch and placed around logs on a logging truck or trailer to prevent the logs from spilling;

Section 4.8 of the *Regulation* states:

- (1) Unless provided elsewhere in this Regulation, the rated capacity or rated load of a machine or piece of equipment is that specified by the manufacturer of the machine or piece of equipment based on its design.
- (2) The rated capacity or rated load must be certified by a professional engineer if
 - (a) the manufacturer's specification or other acceptable warranty cannot be produced,
 - (b) the equipment or machine has been modified in a manner which will change its rated capacity or rated load,
 - (c) wear, corrosion, damage or signs of fatigue are found which may reduce the rated capacity or rated load,
 - (d) the equipment or machine is used in a manner or for a purpose other than that for which it was originally designed, if the use will change the safe working load, or
 - (e) in the opinion of the Board, the provision of such certification is deemed necessary.

Section 4.3 of the *Regulation* states:

- (1) The employer must ensure that each tool, machine and piece of equipment in the workplace is
 - (a) capable of safely performing the functions for which it is used, and
 - (b) selected, used and operated in accordance with
 - (i) the manufacturer's instructions, if available,

(ii) safe work practices, and

(iii) the requirements of this Regulation.

(2) Unless otherwise specified by this Regulation, the installation, inspection, testing, repair and maintenance of a tool, machine or piece of equipment must be carried out

(a) in accordance with the manufacturer's instructions and any standard the tool, machine or piece of equipment is required to meet, or

(b) as specified by a professional engineer.

(3) A tool, machine or piece of equipment determined to be unsafe for use must be identified in a manner which will ensure it is not inadvertently returned to service until it is made safe for use.

(4) Unless otherwise specified by this Regulation, any modification of a tool, machine or piece of equipment must be carried out in accordance with

(a) the manufacturer's instructions, if available,

(b) safe work practices, and

(c) the requirements of this Regulation.

Purpose of guideline

This guideline is intended to describe acceptable modifications to load binder cinches.

Background

Section 26.68 of the *Regulation* requires load binders to restrain logs where the centre of the load will exceed the top of the stakes. Binders are wires, synthetic ropes, chains, or other devices that are secured by a cinch and placed around logs on a logging truck or trailer to prevent the logs from spilling. Cinches are made by many different manufacturers and are often fabricated from forged or cast metal. The most common types are the lever cinch and the ratchet cinch. The hook of the cinch is attached to the binder and is tightened by the worker shortening the cinch.

On occasion, users will make modifications to binder handles by welding additional material to the handle of the cinch, such as by adding additional length to the handle to provide additional leverage so that the user is better able to tighten the binders, or adding a hook to the handle to gather up the loose ends of the binder chain. These types of modifications create a number of hazards.

First, any modification that increases the effective length of the load binder handle can increase the load applied to close the cinch, which may exceed the design load. This may result in damage to or catastrophic failure of the load binder. Any modification of this type must be undertaken in accordance with the manufacturer's instructions, which normally will not be available for this type of equipment.

Second, welding additional material to the binder handle will heat an area around the weld and may change the material properties and weaken the metal. Section 4.8 of the *Regulation* states that modifications to equipment that change its capacity must be reevaluated by a professional engineer. It is therefore crucial that modifications to binder cinch handles are avoided, or if undertaken, done in a way that does not impair the integrity of the cinch.

Modifying load binder cinches

As noted above, additional length should not be added to the binder handle, unless undertaken in accordance with the manufacturer's instructions.

There are, however, a number of techniques available that would deal with the chain tail.

First, a chain, clip, or other binding device can be used to secure the chain tail to the binder. As this avoids attaching a hook to the cinch handle, there is no modification to the binder cinch.

Second, a hook can be attached to the cinch handle with epoxy glue. The heat needed to apply the epoxy is insufficient to substantially change the strength characteristics of the metal.

Third, the hook can be welded to thin-walled, hollow, structural steel, which in turn can be slid over the cinch handle and then crimped into place. The moderate crimping required to the hollow structural steel should not, if done correctly, affect the structural integrity of the metal.

G26.69(2)(b) Safe work procedures for the use of a binder removal station

Issued August 1, 2013

Regulatory excerpt

Section 26.69 of the *OHS Regulation* ("*Regulation*") states:

(1) In this section, "*binder removal station*" means a structure that is designed to protect a worker, when releasing binders or stakes, from the maximum anticipated load of falling or sliding logs or log chunks.

- (2) Written safe work procedures acceptable to the Board must be developed for
- (a) removing binders, and
 - (b) the use of a binder removal station.
- (3) The written procedures developed under subsection (2) must be
- (a) posted in a visible location at any place where binders are removed, including a binder removal station, and
 - (b) maintained in a legible condition.
- (4) Binders must not be removed when a worker is preparing to unload logs from a log transporter unless
- (a) a binder removal station is being used, or
 - (b) the logs are otherwise restrained to prevent them from falling on the worker who is releasing the binders or stakes.
- (5) Once binders have been removed from a load of logs, the unrestrained load must not be moved if any worker is exposed to the risk of a falling log or other falling debris.
- (6) A binder removal station must not be used unless it is certified by a professional engineer as capable of performing its intended function.

Purpose of guideline

Workers removing binders or stakes from a loaded logging truck are at risk of injury or death from logs, chunks, or other materials that may fall off the side of the truck into the area where the worker will stand to remove the binders or stakes. *Regulation* section 26.69(4)(a) specifies the use of a binder removal station as one option to control this risk.

Section 26.69(2)(b) requires that written safe work procedures acceptable to WorkSafeBC be developed for the use of the binder removal station. This guideline provides guidance for employers when developing these safe work procedures.

Factors to be considered for acceptable procedures

Acceptable safe work procedures need to include a step-by-step process of the necessary activities for removing binders/stakes safely at the binder removal station.

When developing safe work procedures for the use of the binder removal station, the employer needs to consider and address the factors below as well as any other safety factors that are specific or unique to the location.

Safe work procedures will be acceptable if they adequately address the following applicable factors:

- Sufficient lighting in the area of the binder removal station, as per the requirement for illumination in Part 4 of the *Regulation*.
- Signage or other means to guide truck drivers to line up the load of logs safely into the binder removal station or structure.
- Barriers and guides for orienting the truck; located so that even when the truck tires are rubbing against a barrier, the protective arms, when lowered, will still contact the truckload.
- The maximum log load specifications (i.e., butt diameter and length) need to be identified in the procedure.
- Identification of the protected area in the binder removal station as well as any "no access area" around the perimeter of the station, describing the means to prevent entry into this area.
- Use of a physical barrier or an effective warning system to prevent a truck from leaving the binder removal station prior to raising the protective arms.
- A means to lock out or otherwise prevent trucks from entering the binder removal station, if workers are required to enter the "no access area" for maintenance or repair work.
- Only one truck is allowed to use the binder removal station at a time unless the procedures specifically address simultaneous use.
- Restraining arms used with the binder removal station rest on the logs and other loaded materials, not on the stakes on the truck.
- Instructions for the driver to remain within the protected area while removing binders.
- If a second worker is assisting the driver instruction for them to stay within the protected area and follow the same safe work procedures.
- Instructions for the driver to not attempt to leave the binder removal station until procedural steps have been completed that make it safe to do so.
- Instructions for the driver in case of unplanned events (e.g., when logs are hung up on the log truck or any part of the protective structure.
- Review of safe work procedures with drivers prior to using the binder removal station.

G26.41 Guidelines

Issued May 1, 2008

Regulatory excerpt

Section 26.41 of the *OHS Regulation* states:

(1) Guylines for a mobile yarder must be positioned

(a) as specified by the manufacturer, or

(b) in a manner acceptable to the Board.

...

Purpose of guideline

The purpose of this guideline is to describe the positioning of guylines for mobile yarders that is acceptable to WorkSafeBC.

Guyline positioning

Unless otherwise specified by the manufacturer, guylines for mobile yarders must be positioned as shown in the diagrams below.

Figure 26-1 Positioning guylines for mobile yarders

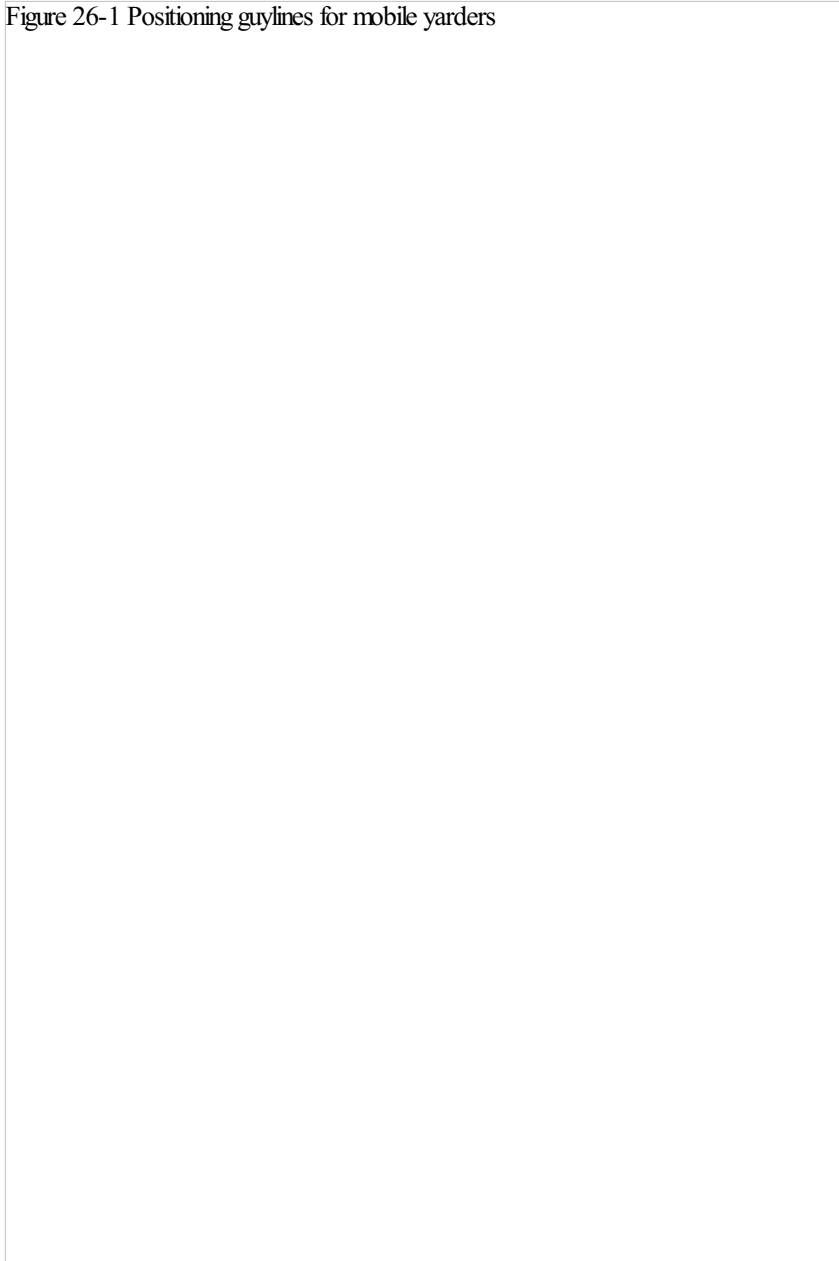


Figure 26-1 (Continued) Positioning guylines for mobile yarders



Figure 26-1 (Continued) Positioning guylines for mobile yarders

G26.1-2 Owners' obligations

Issued May 1, 2008; Revised November 29, 2012

Regulatory excerpt

Section 119 of the *Workers Compensation Act* ("Act") states:

Every owner of a workplace must

- (a) provide and maintain the owner's land and premises that are being used as a workplace in a manner that ensures the health and safety of persons at or near the workplace,
- (b) give to the employer or prime contractor at the workplace the information known to the owner that is necessary to identify and eliminate or control hazards to the health or safety of persons at the workplace, and
- (c) comply with this Part, the regulations and any applicable orders

Section 26.1.1 of the *OHS Regulation* ("Regulation") states:

If the owner of a forestry operation enters into an agreement referred to in section [118 \(1\)](#) of the Act designating a person to be the prime contractor for a workplace, the owner must ensure that

- (a) the person designated
 - (i) is qualified to be the prime contractor in respect of that workplace, and

(ii) has the authority necessary to fulfill the responsibilities of prime contractor under the Act, including, without limitation, authority over any employer, worker or other person who may be carrying out the work of the owner at the workplace, and

(b) not more than one person holds the designation of prime contractor for that workplace at any given time.

Section 26.2(1) of the *Regulation* states:

The owner of a forestry operation must ensure that all activities of the forestry operation are both planned and conducted in a manner consistent with this Regulation and with safe work practices acceptable to the Board.

Purpose of guideline

The purpose of this guideline is to provide information regarding obligations on owners of forestry workplaces.

"Owners" - Who is an owner?

A number of requirements in Part 26 relate specifically to the "owner" of a forestry workplace or forestry operation. Section 119 of the *Act* also sets out general responsibilities of owners, and [section 118](#) of the *Act* will create prime contractor obligations on owners of multiple employer workplaces that do not designate a prime contractor.

The definition of *owner* in [section 106](#) of the *Act* expands the commonly understood meaning to include a "licensee or occupier of any lands or premises used or to be used as a workplace" or "a person who acts for or on behalf of an owner as an agent or delegate." Accordingly, a number of parties may be owners of a forestry workplace.

Both the Ministry of Forests, Lands, and Natural Resource Operations (MFLNRO) and those that hold forest tenures are considered to be owners of workplaces where forestry operations are undertaken.

Most forestry in British Columbia takes place on publicly owned Crown lands managed by the province through the MFLNRO. The MFLNRO grants rights to harvest and market timber to licensees through a variety of types of licenses, or tenures. The MFLNRO is an administrative department of the Crown and does not have a separate legal identity from the Crown. As the workplace for almost all forestry operations will be located on Crown lands, the MFLNRO should be considered an owner of workplaces in which forestry operations are taking place.

In addition, licensees and holders of forestry tenures administered by MFLNRO will also be considered to be owners. The definition of owner, which includes licensees and occupiers of lands, clearly includes these workplace parties.

Which owner is responsible for which obligations?

Where there are multiple owners of forestry workplaces, it is necessary to determine which owner is responsible for which obligation. Policy Item [D3-119](#) sets out the factors to consider in determining each owner's responsibility in a multiple-owner situation. These factors relate to the knowledge of workplace hazards, control over the workplace, and the reasonableness of imposing the particular obligation on that owner.

In accordance with Policy Item D3-119-1, WorkSafeBC prevention officers should consider issuing orders to owners where the owner has knowledge and control over the workplace hazards in question. Among the factors to be considered in issuing orders to owners are:

- *Knowledge*: whether the owner knew or should have known that the health and safety of the persons at or near the workplace would likely be harmed by the condition or use of the workplace and the extent of the harm, if it occurred, would be more than minor or trivial.
- *Control*: whether the owner had some control or influence over the safety of the workplace in that the owner could practicably have taken measures necessary to eliminate or reduce the risk or extent of the potential harm.

For example, determining responsibilities of MFLNRO and licensees will necessarily reflect the control over forestry workplaces administered by the tenuring system. MFLNRO's control over safety would be relatively indirect, as licensees are positioned to have the predominant control over the high level planning of work in most forestry workplaces. MFLNRO has control over the allocation of the tenure as well as monitoring the performance of its licensee; and its obligations as owner will centre on how tenures are allocated and will provide appropriate information around hazards encountered in monitoring these tenures.

- *Communication*: whether the owner possessed material information and failed to communicate all the material information in the owner's possession to the persons at or near the workplace, thus preventing them from taking measures to protect themselves.

These factors assist in determining which obligations each owner will have under section 119 of the *Act* as well as under section 26.2 of the *Regulation*. For example, a licensee that prepares a harvesting plan that includes areas that present hazards from steep slopes must provide information to harvesting contractors that identifies these areas so that harvesting can be planned and undertaken in a way that deals appropriately with that hazard.

Which "owner" may designate the prime contractor?

With respect to multiple-employer workplaces, the obligations of the prime contractor under section 118 of the *Act* must be fulfilled by "the owner" of the workplace, if the owner does not designate a prime contractor. In addition, section 26.1.1 of the *Regulation* imposes certain requirements on the owner who designates a prime contractor for a forestry workplace. As a practical matter, it is only possible to have one owner who may designate a prime contractor, or who must fulfill that role if none is designated.

In accordance with Policy D3-119-1, it will be the owner with the most control over and knowledge of a particular workplace who must fulfill the obligations of section 118 of the *Act*, or who may designate a prime contractor. In making this determination, the elements of knowledge and control should relate to the ability to plan and manage the workplace as a whole. That is, the owner that may designate a prime contractor or who must act in that capacity if none is designated, will be the owner that has the most ability to control how work is done by others at the workplace, and who has the most knowledge of how work is to be done in general.

Licensees will normally have the most knowledge of and control over forestry workplaces, and therefore it will be reasonable in most situations to view licensees as the owners with the most responsibility over forestry workplaces. For most forestry operations, the licensee will be the owner for the purposes of section 26.1.1 and section 118.

That said, where the MFLNRO retains primary control over certain multiple-employer workplaces, it will be the primary owner and prime contractor where none is designated. This may include multiple-employer workplaces such as small business sales through the BC Timber Sales program

Though licensees are the primary owners of forestry workplaces, MFLNRO retains some owner obligations. MFLNRO compliance with obligations in section 119(a) of the *Act* to "provide and maintain... lands and premises that are being used as a workplace in a manner that ensures health and safety" will to a great extent be shaped by the legislation governing the disposition of forest licenses and the terms of the license granted by MFLNRO to the licensee.

With respect to the obligation in section 119(b) of the *Act* to give "information... necessary to identify and eliminate or control hazards...", the MFLNRO should typically be expected to communicate to licensees, prime contractors, or any relevant employer in a license area, information about any safety hazard it becomes aware of, or should have become aware of, particularly with respect to hazards encountered during the course of inspecting forestry operations to ensure that the terms of the forest license and forestry legislation are being adhered to.

G26.1.1-2 Prime contractor obligations

Issued May 1, 2008; Revised November 29, 2012

Regulatory excerpt

Section 26.1.1 of the *OHS Regulation* ("*Regulation*") states:

If the owner of a forestry operation enters into an agreement referred to in section 118 (1) of the *Act* designating a person to be the prime contractor for a workplace, the owner must ensure that

- (a) the person designated
 - (i) is qualified to be the prime contractor in respect of that workplace, and
 - (ii) has the authority necessary to fulfill the responsibilities of prime contractor under the *Act*, including, without limitation, authority over any employer, worker or other person who may be carrying out the work of the owner at the workplace, and
- (b) not more than one person holds the designation of prime contractor for that workplace at any given time.

Section 118 of the *Workers Compensation Act* ("*Act*") states:

(1) In this section:

"multiple-employer workplace" means a workplace where workers of 2 or more employers are working at the same time;

"prime contractor" means, in relation to a multiple-employer workplace,

(a) the directing contractor, employer or other person who enters into a written agreement with the owner of that workplace to be the prime contractor for the purposes of this Part, or

(b) if there is no agreement referred to in paragraph (a), the owner of the workplace.

(2) The prime contractor of a multiple-employer workplace must

(a) ensure that the activities of employers, workers and other persons at the workplace relating to occupational health and safety are coordinated, and

(b) do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with this Part and the regulations in respect of the workplace.

(3) Each employer of workers at a multiple-employer workplace must give to the prime contractor the name of the person the employer has designated to supervise the employer's workers at that workplace.

Purpose of guideline

The purpose of this guideline is to provide information on prime contractor obligations, including how to determine the scope of a workplace to

evaluate whether prime contractor obligations must be fulfilled, and what qualifications a prime contractor must have.

The prime contractor designation - What is "the workplace"?

Forestry workplaces will often be multiple-employer workplaces. This means that the obligations under section 118 of the *Act* relating to coordinating and maintaining a system of compliance must be fulfilled, either by a prime contractor, or if none is designated, the owner.

Section 106 of the *Act* defines "workplace" broadly. It states:

"workplace" means any place where a worker is or is likely to be engaged in any work and includes any vessel, vehicle or mobile equipment used by a worker in work.

In typical commercial or industrial operations, what constitutes the workplace is often self-evident, as the location is well defined. With respect to forestry operations, which involve a variety of activities undertaken by a range of contractors over a broad geographical area, identifying the workplace is less certain. Work locations may be undefined until the work is actually performed, and may be located anywhere within the licensed area.

Policy Item [D-3-118-1](#) ("Policy") provides that a multiple-employer workplace may exist even if workers of different employers are present at the same time working on *different projects*. In addition, the Policy provides that the phrase "at the same time" will be given a "fair large and liberal construction" in order to "best attain the objectives of section 118." According to the Policy, "at the same time" means that workers of two or more employers are merely present in the workplace over "an appropriate interval" rather than at any precise point in time, and that the duration of the interval of time to be considered will depend upon the circumstances of the individual workplace. In addition, the Policy provides that it does not matter whether the workers of the different employers actually come into contact, as long as one employer's workers and their activities could well affect the health and safety of another employer's workers who come into the workplace at some other time.

Assessing what the workplace is for the purposes of establishing prime contractor obligations in the forestry industry will, in addition to the factors outlined in the Policy, depend on the following:

- The degree to which the activities of one employer will impact the health and safety of workers of another employer in a given area
- The degree to which a given area constitutes a single contiguous administrative unit
- Exclusivity of control over the given area

The multiple-employer workplace may, depending on the circumstances, be a single block, a cutting permit area, or, in certain situations where the above factors are present, an entire licensed area.

Section 1.1 of the *Regulation* exempts resource roads from being considered a workplace. For further discussion please refer to [OHS Guideline G1.1\(1\)](#).

Section 118(1) of the *Act* provides that the prime contractor will be the owner, unless there is a specific agreement designating another person as the prime contractor. As the owner with the greatest control over the workplace, it is appropriate that the licensee act as the "default" prime contractor. Even though there may be a "stump to dump" contractor who may be a directing contractor over a broad portion of forestry operations, that contractor will not be the prime contractor unless there is a specific designation in a written agreement that the contractor will act as prime contractor for the purposes of coordinating occupational health and safety matters.

Also, in accordance with Policy Item D3-118-1, there can be only one "prime contractor" at a workplace at any point in time. If an owner enters into more than one agreement purporting to create a "prime contractor" for the same period of time, the owner will be considered to be the prime contractor.

For information on which owner may designate the prime contractor, please refer to OHS Guideline [G26.1-2](#).

"Qualified"

Section 26.1.1 states that the owner must ensure the prime contractor at a multiple-employer forestry workplace is qualified. "Qualified" is defined in section 1.1 of the *Regulation* as "being knowledgeable of the work, the hazards involved and the means to control the hazards, by reason of education, training, experience or a combination thereof." Multiple-employer forestry workplaces will involve a complex mix of work activities and hazards. Owners are therefore expected to ensure that prime contractors they designate have a significant level of experience and training specific to the types of operations that they will be coordinating. Being "qualified" also involves possessing knowledge of how to control hazards; a qualified prime contractor must not only have knowledge of work processes, but knowledge of hazard recognition and managing health and safety risks.

Note that under section 118 of the *Act*, the owner must agree in writing with the prime contractor that the prime contractor will act in that capacity. The prime contractor must be aware that it has agreed in writing to act in that capacity, and the language of the agreement must be adequately clear that the parties intended that the prime contractor act in that capacity. Failure to have an adequate written agreement will result in the owner being required to fulfill the prime contractor obligations.

What are the obligations?

Under section 118(2) of the *Act*, the prime contractor is responsible for coordinating activities relating to health and safety at the workplace. Coordination will extend to logistical matters relating to the work carried out by the employers at the workplace. The prime contractor of a forestry workplace must, as a function of this coordination role, perform a risk assessment to determine appropriate measures to eliminate or reduce hazards faced by workers in the area in question.

The prime contractor is also responsible for establishing a system or process to ensure health and safety compliance. This may involve establishing a safety program as described in [Part 3, Division 4](#) of the *Act* and section [3.3](#) of the *Regulation* with respect to the entire workplace, as well as making regular inspections of the workplace as contemplated by section [3.5](#) of the *Regulation*. It may also involve the creation of a joint health and safety committee for the entire workplace. At a minimum, prime contractors should ensure that things like the initial safety meeting under section [26.5](#) and the orientation of young or new workers under section [3.23](#) take place. In addition, a necessary feature of any system or process is the ability to monitor and maintain that system. A prime contractor must take steps to ensure the employers it is coordinating are complying with and participating in its system.

In addition to the duties on prime contractors contained in the *Act*, section [26.4](#) of the *Regulation* requires the prime contractor to submit a notice of project of a forestry operation.

G26.2-1 Planning and conducting a forestry operation

Issued May 1, 2008; Revised November 29, 2012

Regulatory excerpt

Section 26.2 of the *OHS Regulation* ("*Regulation*") states:

- (1) The owner of a forestry operation must ensure that all activities of the forestry operation are both planned and conducted in a manner consistent with this Regulation and with safe work practices acceptable to the Board.
- (2) Every person who has knowledge and control of any particular activity in a forestry operation must ensure that the activity is both planned and conducted in a manner consistent with this Regulation and with safe work practices acceptable to the Board.
- (3) The planning required under this section must
 - (a) include identification of any work activities or conditions at the workplace where there is a known or reasonably foreseeable risk to workers,
 - (b) be completed before work commences on the relevant activity, and
 - (c) be documented at the time of planning.
- (4) If, after any planning referred to in subsection (3), there is a change in the workplace circumstances, including the work activities and the conditions of the workplace, and the change poses or creates a known or reasonably foreseeable risk to workers that was not previously identified, then
 - (a) the plan must be amended to identify and address the risk and provide for the health and safety of the workers at the workplace, and
 - (b) the amendment must be documented as soon as is practicable.

Purpose of guideline

This guideline provides guidance to WorkSafeBC prevention officers as well as stakeholders in the forest industry regarding accountability and responsibility for aspects of planning and conducting operations to ensure health and safety compliance in forestry operations.

Background

Most forestry in British Columbia takes place on publicly owned Crown lands managed by the province through the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO). The management of the forests and lands in which forestry operations take place is governed by a variety of legislation, including the *Forest Act* and the *Forest and Range Practices Act* and regulations associated with these Acts.

Under this legislation, the MFLNRO grants rights to harvest and market timber to licensees through a variety of types of licenses or tenures. These licenses also place certain obligations on the licensees. In general the terms of the license include conditions relating to harvesting practices, forest management, road building, reforestation, firefighting, and the like. Certain terms are dictated by forestry legislation; certain terms are functions of MFLNRO policy.

Historically, timber harvesting and related operations, particularly on the coast, were typically carried out directly by the licensee. In recent years, however, forest operations have evolved into a complex multi-layered mix of contractors, subcontractors, and independent operators. In the interior, the evolution has been less dramatic, as in that regional operations have historically involved a wide variety of contractors, often provided for in the tenures provided to licensees.

The MFLNRO determines an Annual Allowable Cut (AAC) for a particular broad region of the province, called a Timber Supply Area. This area may include any number of licenses, and provides specific authority to licensees to harvest certain areas included in their respective license area through specific cutting permits.

Licensees tend to contract operations related to harvesting and forest management to subsidiary organizations or to third-party contractors. In particular, licensees will often contract with subsidiaries or third-party contractors to oversee harvesting operations in specific areas (referred to as "blocks") within the cutting permit area. Such contractors (often referred to as "stump to dump" contractors) are often responsible for a wide range

of operations with respect to a given cutting permit.

Those organizations, in turn, tend to contract out portions of the harvesting operations (such as falling, yarding, or timber transportation) within specific blocks to subcontractors (often referred to as "phase" contractors). Those subcontractors, in turn, may engage individuals such as fallers or equipment operators to perform specific tasks. These individuals might be employees under a contract of service or independent contractors, who also may engage other workers as employees or under contract.

All of these different organizations and individuals have responsibilities for ensuring forestry operations are planned and conducted in a manner that ensures the health and safety of forest workers.

"Planning and conducting" and the contracted out forestry workplace

Section 26.2(2) of the *Regulation* requires every person who has knowledge of and control over any particular activity in a forestry operation to ensure that the activity is both planned and conducted in a manner consistent with this *Regulation* and with safe work practices acceptable to WorkSafeBC.

The health and safety at forestry workplaces is the responsibility of all workplace parties that have an influence on how work is conducted. Section 26.2(2) reinforces that idea by requiring each person in a forestry operation to plan and conduct activities that they have knowledge of and control over. This obligation lies with all workplace parties. For example, the MFLNRO must ensure that access to Crown lands is provided in an adequately planned way so that workers of different tenure holders are not placed at risk. Licensees must plan overall operations in a manner that ensures that work can be carried out with a minimum of risk. Workers, for their part, must carry out their work in a manner that protects their own safety and the safety of other workers.

With respect to work that is to be provided under contract, "plan and conduct" should include the following obligations:

- Evaluating the risks the operations of contractors at one workplace within the license area will impose on the workers at another, and, where necessary, coordinating those activities in order to ensure that health and safety of workers is not put at risk.
- Monitoring the operations of contractors to ensure that they are meeting their health and safety obligations and are, in turn, monitoring the health and safety performance of their subcontractors. As noted above, where the contracting employer appoints a contract supervisor, that individual should monitor compliance with health and safety requirements as a function of his or her duties to monitor compliance with the terms of the contract.

Obligation of employers to workers of different employers

In considering the importance of planning and conducting work in contracted out forestry workplaces, it is important to note the obligation of section 115(1)(a)(ii) of the *Act*, which states:

115(1) Every employer must

(a) ensure the health and safety of

(i) all workers working for that employer, and

(ii) any other workers present at a workplace at which that employer's work is being carried out...

This section requires that every employer must ensure not only the health and safety of its workers, but also the health and safety of "any other workers present at a workplace at which that employer's work is being carried out."

A given work activity is not necessarily merely the work of the direct employer of the workers carrying out the work. The work may also be considered to be the work of an employer that has engaged a contractor instead of having its own workers carry out that work.

With respect to forestry operations, the entire range of activities relating to timber harvesting, transportation, and forest management should be viewed as the licensee's work, as well as the work of the contractors and subcontractors performing the work. In turn, the entire range of harvesting activities which a stump to dump contractor has been contracted to administer should be considered that contractor's work in addition to the licensee's work. In this way, the work of a single hand faller, for example, may be considered the work of many entities up the contracting chain for the purposes of establishing the health and safety duties of that entity under section 115(1)(a)(ii).

Every contractor and subcontractor will have health and safety duties with respect to the worker and workplace where the work is carried out. The extent of that duty, and the manner in which it is discharged, will depend on the circumstances. Factors to be considered in assessing whether an employer has a health and safety obligation at a particular workplace include the following:

- The degree of control exercised by the contracting employer over the contractor in other areas of its business. The degree of control should be evaluated by reviewing both the terms of the contract between the parties as well as the reality of the relationship.
- The extent to which the contracting employer knew or should have known of a hazard or situation of non-compliance created by the activities of its contractor. For example, where the contracting employer appoints an individual such as a contract supervisor to monitor compliance with the terms of contract, it may be reasonable to conclude that the contracting employer knew or should have known of a lack of compliance with health and safety requirements.
- Whether it is reasonable to expect the contracting employer to have undertaken safety precautions.

The extent to which an employer took into consideration occupational health and safety matters in structuring and administering its relationship with

any contractor it engaged should also be examined.

In engaging a contractor to carry out forestry operations, the contracting employer must take reasonable steps to ensure that the contractor is capable of discharging its health and safety obligations towards its workers and subcontractors, and take reasonable steps to monitor the contractor's safety performance and address any issues that arise. The monitoring activities that are reasonable in the circumstances, ranging from receiving safety reports or reviewing administrative records through to direct inspections, will correlate generally to the degree of control the contracting employer exercises over, and the monitoring of, other aspects of the contractor's operations.

G26.2-2 Planning log hauling operations for varying road grades

Issued: September 28, 2005; Editorial Revision May 1, 2008

Regulatory excerpt

Section 26.2 of the *OHS Regulation* ("*Regulation*") states:

- (1) The owner of a forestry operation must ensure that all activities of the forestry operation are both planned and conducted in a manner consistent with this Regulation and with safe work practices acceptable to the Board.
- (2) Every person who has knowledge and control of any particular activity in a forestry operation must ensure that the activity is both planned and conducted in a manner consistent with this Regulation and with safe work practices acceptable to the Board.
- (3) The planning required under this section must
 - (a) include identification of any work activities or conditions at the workplace where there is a known or reasonably foreseeable risk to workers,
 - (b) be completed before work commences on the relevant activity, and
 - (c) be documented at the time of planning.
- (4) If, after any planning referred to in subsection (3), there is a change in the workplace circumstances, including the work activities and the conditions of the workplace, and the change poses or creates a known or reasonably foreseeable risk to workers that was not previously identified, then
 - (a) the plan must be amended to identify and address the risk and provide for the health and safety of the workers at the workplace, and
 - (b) the amendment must be documented as soon as is practicable.

Purpose of guideline

The purpose of this guideline is to provide direction about appropriate risk assessments that should be conducted in planning log hauling operations on varying road grades to ensure worker safety.

Risk assessment

If log haul operations are to be conducted on road grades that exceed those listed in the Ministry of Forests' *Forest Road Engineering Guidebook*, a risk assessment should be conducted before any hauling is conducted. The risk assessment factors will depend on the grade of the road, namely

1. *Grades 0 to 18% (18% for short pitches is the maximum listed in the Forest Road Engineering Guidebook)*

The following conditions should be in place to ensure log haul operations on these grades do not present a safety concern:

- The vehicle can be brought to a safe stop on the road surface and grade given the weather conditions at that time.
 - The vehicles are properly maintained.
 - Speed is not excessive (excessive speed for this guideline is considered as speed above the design speed, above which the operator is not in adequate control of the vehicle, or speed above which the unit could not be brought to a safe stop given a single failure in the driveline).
 - Vehicle loads are within the limits of the equipment.
2. *Grades in excess of 18% (grades exceeding road grades listed in the Ministry of Forests' Forest Road Engineering Guidebook):*

There are many factors that contribute to safe operations on these grades, including: weather conditions; road surface friction; grade and horizontal alignment; side slope; velocity of the vehicle; load carried by the vehicles; size, style and condition of brakes; obstacles ahead; and location and size of drop-offs.

The employer must perform a risk assessment to ensure that the equipment being used is capable of performing in a safe manner given weather conditions at the time of log hauling. This assessment should include the following:

- Specifications regarding the road surface condition;
- Vehicle speed

- Length of pitch
- Road relief
- Curve radius
- Comments on specific terrain hazards to negotiate

The risk assessment should not rely solely on the fact that trucks or other equipment may have negotiated similar roads without incident during past operations.

The risk assessment should also address the situation where if an upset condition (such as adverse weather conditions or a failure in the driveline) were to occur, how that upset condition would be controlled or mitigated. The risk assessment needs to confirm that the vehicle or other equipment can be brought to a safe stop under the anticipated hauling or upset conditions. If hauling conditions fall outside the anticipated parameters of the risk assessment, a reassessment should be conducted before hauling continues.

A clear work procedure must be developed based upon the risk assessment described above and include specific instructions for all factors included in the risk assessment. In addition, the risk assessment should include instructions for correct brake adjustment, and if necessary, brake temperature checks. The risk assessment and subsequent work procedure should be discussed and agreed upon with the loading and hauling crews.

Once completed, the risk assessment must confirm that the vehicles or other equipment travelling on these slopes are capable of doing so safely before hauling operations begin.

G26.2-3 Multiple cuts - Mechanical falling

Issued February 19, 2016; Editorial Revision July 3, 2018

Regulatory excerpt

Section 26.2 of the *OHS Regulation* ("*Regulation*") states:

- (1) The owner of a forestry operation must ensure that all activities of the forestry operation are both planned and conducted in a manner consistent with this Regulation and with safe work practices acceptable to the Board.
- (2) Every person who has knowledge and control of any particular activity in a forestry operation must ensure that the activity is both planned and conducted in a manner consistent with this Regulation and with safe work practices acceptable to the Board.
- (3) The planning required under this section must
 - (a) include identification of any work activities or conditions at the workplace where there is a known or reasonably foreseeable risk to workers,
 - (b) be completed before work commences on the relevant activity, and
 - (c) be documented at the time of planning.
- (4) If, after any planning referred to in subsection (3), there is a change in the workplace circumstances, including the work activities and the conditions of the workplace, and the change poses or creates a known or reasonably foreseeable risk to workers that was not previously identified, then
 - (a) the plan must be amended to identify and address the risk and provide for the health and safety of the workers at the workplace, and
 - (b) the amendment must be documented as soon as is practicable.

Purpose of guideline

This guideline is intended to provide information on using mechanical harvesters to fall trees using multiple cuts and the planning that is required before such cuts are made. The guideline should be read in conjunction with [G26.2-1 Planning and conducting a forestry operation](#) and [G26.16 Slope limitations - Safe work procedures](#).

Scope of guideline

This guideline only applies to using multiple cuts to completely fall a tree before proceeding to fall the next tree. Using multiple cuts to fall a single tree before proceeding to fall the next tree is acceptable where the process is adequately planned and safe work practices are developed, implemented, and followed.

This guideline does *not* apply to partially cut trees which are either bypassed or left unattended during the falling process, as outlined in [section 26.29.3](#) of the *Regulation*. There are currently no safe work practices acceptable to WorkSafeBC under section 26.29.3(3) permitting what is commonly known as "double-pass cutting" or "double-cutting", in which a mechanical harvester works along the front of a row of trees, partially cutting each tree in sequence (leaving each partially-cut tree unattended), and then works its way along the back of the row to complete the cuts and guide the trees to the ground. "Double-pass cutting" does not take into account tree condition or machine capacity, nor does it consider the limited ability of the harvester operator to accurately determine how much of the base diameter of the tree has been cut off or how

much holding wood is left to support the standing tree.

Planning

Section 26.2(2) of the *Regulation* requires that every person who has knowledge and control of any particular activity in a forestry operation must ensure that the activity is both planned and conducted in a manner consistent with the *Regulation* and with safe work practices acceptable to WorkSafeBC.

Adequate planning should include the selection of equipment capable of safely falling the size and condition of trees on the block. Employers and others should be mindful of the requirements of section 4.3(1) of the *Regulation* which states:

The employer must ensure that each tool, machine and piece of equipment in the workplace is

- (a) capable of safely performing the functions for which it is used, and
- (b) selected, used and operated in accordance with
 - (i) the manufacturer's instructions, if available,
 - (ii) safe work practices, and
 - (iii) the requirements of this Regulation;

section 26.12.1 of the *Regulation* which states:

- (1) Any equipment designed for a specific function in a forestry operation or adapted for use in a forestry operation must be capable of performing safely the functions for which it is being used.
- (2) The requirements of subsection (1) are met if the equipment is used
 - (a) in accordance with the manufacturer's instructions,
 - (b) as specified by a professional engineer, or
 - (c) in a manner acceptable to the Board;

and section 26.29.2 of the *Regulation* which states:

A mechanical harvester must not be used to fell a tree if

- (a) the tree is in a condition that, if felled in that condition, it would pose a reasonably foreseeable risk to the harvester operator, or
- (b) the mechanical harvester is not capable of falling the tree safely.

In addition, adequate planning should address the particular hazards and risks present on the block. These items are listed below under the headings of "site-specific procedures."

Safe work practices

The following safety considerations should be taken into account when falling trees with mechanical harvesters using multiple cuts:

- Multiple cuts should only be used to directionally fall a tree
- The equipment must have sufficient pushing power to direct the tree against its lean
- Sufficient holding wood should be maintained until the machine is positioned to make the final cut

Safe work practices for conducting multiple falling cuts should include both *general* and *site-specific* procedures.

General procedures should address the following issues:

- How the harvester operators will be trained and instructed in the work to be performed
- How the work is to be supervised and monitored
- How the harvester operator will maneuver the machine in order to complete the falling process
- The steps the operator will take when cutting any trees to gain access to the full 360 degrees of the initial tree being cut. If full access is not possible without falling other trees first, the harvester operator must first fall those trees that are preventing access before any cuts are made in the initial tree
- Steps to follow in the event falling cuts are initiated and cannot be completed
- An assessment by the harvester operator of the hazards associated with multiple falling cuts, such as stability of the tree (top and stem, excessive rot, limb tied, etc.)
- Maintaining directional control over the tree by the harvester operator through the falling process
- Control of the fall of the tree by the harvester operator in a manner that ensures the stability of the machine and the protection of the operator at all times
- The steps that will be taken to ensure the health and safety of all workers who may be exposed to the hazard of the tree during the multiple

cutting process

Site-specific procedures should address the particular hazards and risks present at the time and place the falling takes place, such as the following:

- Topography (slope, broken rock, loose shale, stable, or slippery snow pack, etc.)
- Wind and weather conditions, including an assessment of visibility and ability to clearly see the tree from ground to top
- Other work activity taking place at the falling location
- The condition of the tree or trees to be partially cut to ensure they are stable enough to support multiple cuts. This assessment should consider the likelihood of the trunk collapsing due to decay or other defect (taking into account and the possibility of the top of the tree breaking off and striking the machine)
- Slope limitations that may affect harvester stability while making cuts or pushing the tree over
- How to effectively control the fall of trees during the falling process to ensure that no additional hazards to workers are created by the actions of the harvester

Hazards to consider and mitigate include the following:

- brushing of standing timber
- damage to adjacent trees
- whether falling is upslope
- accumulation of debris against the butt of standing trees if a hand faller or other worker will later be at the base of the tree for other types of work

G26.3.1(1)(a) Acceptable standard for training

Issued February 11, 2009

Regulatory excerpt

Section 26.3.1(1) of the *OHS Regulation* ("Regulation") states:

- (1) Workers in a forestry operation who fight a forest fire must be
 - (a) trained in their fire fighting duties in accordance with a standard acceptable to the Board, and
 - (b) physically capable of performing their duties safely and effectively.

Purpose of guideline

The purpose of this guideline is to specify the training requirements for workers in a forestry operation in order for them to be considered trained in accordance with a standard acceptable to WorkSafeBC for section 26.3.1(1)(a) of the *Regulation*.

Standard acceptable to WorkSafeBC

S-100 Basic Fire Suppression and Safety is a training program developed by the B.C. Forest Service (BCFS), Protection Branch of the Ministry of Forests and Range. Workers who have been trained in S-100 and have received a certificate of completion from a BCFS-endorsed instructor are considered to have been trained in accordance with a standard acceptable to WorkSafeBC.

Alternative training standards

Employers, or training providers, who have developed training standards other than S-100, may apply to WorkSafeBC for review. Applications can be made to the Manager of the Certification Services department of WorkSafeBC.

G26.11 Wildlife danger tree

Issued December 14, 2012; Editorial Revision January 29, 2014

Regulatory excerpt

Section 26.11 of the *OHS Regulation* ("Regulation") states:

- (1) If it is known or reasonably foreseeable that work will expose a worker to a dangerous tree,
 - (a) the tree must be felled, or
 - (b) a risk assessment of the tree must be undertaken by a person who has completed a training program acceptable to the Board.
- (2) If a risk assessment under subsection (1) determines that a tree poses a risk to a worker, the recommendations made in the risk assessment for eliminating or minimizing the risk must be implemented before the work referred to in that subsection starts.
- (3) Despite subsections (1) and (2), if work in a forestry operation is to be carried out in an area that has more than 500 dangerous trees per hectare, the Board may approve a request to work without felling or assessing all the dangerous trees if, before the work starts,
 - (a) a person who has completed a training program acceptable to the Board conducts a risk assessment of a representative sample of

the dangerous trees, and

(b) any recommendations made in the risk assessment for eliminating or minimizing the risks are implemented.

Section 26.1 of the *Regulation* states:

"*dangerous tree*" means a tree that is a hazard to a worker due to

- (a) its location or lean,
- (b) its physical damage,
- (c) overhead conditions,
- (d) deterioration of its limbs, stem or root system, or
- (e) any combination of the conditions in paragraphs (a) to (d);

Purpose of guideline

The purpose of this guideline is to describe an acceptable training program to WorkSafeBC with respect to a person who will be qualified to undertake a danger tree risk assessment.

Background

Danger trees present significant hazards to those working in proximity to them. It is important that the hazards of danger trees are identified and adequately managed. Where work may expose a worker to a danger tree, section 26.11 requires a risk assessment to be performed by a person who has completed a training program acceptable to WorkSafeBC, and that person to make recommendations for managing the hazard. The purpose of this guideline is to set out what training program is acceptable to WorkSafeBC.

Training programs acceptable to WorkSafeBC

For the purposes of section 26.11, currently there are two training programs acceptable to WorkSafeBC, each with a different focus.

In the context of forestry operations, only a person who has completed the Wildlife Danger Tree Assessor's Course, administered by the Wildlife Tree Committee (WTC), can complete a risk assessment and make recommendations for managing danger trees.

The WTC is a multi-agency committee composed of representatives from the provincial Ministry of Forests and Range and Ministry of Environment, WorkSafeBC, industry and labour, and public interest groups from across the province. The training course provides information and technical procedures for understanding tree hazards and establishing appropriate safe work practices in situations where there is potential exposure of workers involved in silviculture treatments to danger trees.

With respect to arboriculture operations, the Tree Risk Assessment Qualification (TRAQ) course provides training with respect to the assessment of danger trees that exist in urban areas and urban/rural interface areas, and is an acceptable training program to WorkSafeBC for danger tree assessors in that industry. The TRAQ course is administered by the International Society of Arboriculture (ISA).

Other courses

WorkSafeBC recognizes that other training courses may be developed that may meet the requirements for acceptance under section 26.11(1). WorkSafeBC will review any proposed courses for acceptance to ensure they meet a standard acceptable to WorkSafeBC. Any new courses WorkSafeBC identifies as acceptable under section 26.11(1) will be added to this guideline for the information of workplace parties and WorkSafeBC prevention officers.

Persons wishing to have WorkSafeBC consider an alternative course for acceptance under section 26.11(1) may submit that course to WorkSafeBC for review and evaluation. Please contact Certification Services at (604) 276-3090 for further information.

G26.21/26.22 Faller training – Application

Issued September 28, 2005; Revised May 1, 2008; Editorial Revision April 14, 2009; Editorial Revision May 9, 2014; Editorial Revision April 30, 2015; Editorial Revision October 28, 2015; Editorial Revision November 21, 2017

Regulatory excerpt

Sections 26.21 and 26.22 of the *OHS Regulation* ("*Regulation*") states in part:

26.21 Faller qualifications

- (1) A worker must not fall trees or be permitted to fall trees, or conduct or be permitted to conduct bucking activities, associated with falling trees, unless
 - (a) the worker is qualified to do so to a standard acceptable to the Board, and
 - (b) the work being performed is within the documented and demonstrated capabilities of that worker.

...

26.22 Forestry operation faller training

(1) A worker may not work as a faller in a forestry operation unless the worker receives training for falling that is acceptable to the Board and is certified in writing as a competent faller under this section.

...

Purpose of guideline

Hand falling remains one of the most dangerous professions in British Columbia. It is crucial that fallers are trained in safe work practices so that they are able to recognize and eliminate or minimize hazards.

This guideline sets out what training is acceptable to WorkSafeBC for the purposes of section 26.22(1) of the *Regulation*, and who is required to receive faller training. It also describes what the "documented and demonstrated capabilities" of the worker mean for the purposes of section 26.21 of the *Regulation*.

Who must receive training?

The faller training requirement in section 26.22 of the *Regulation* applies to workers in a "forestry operation." Section 26.1 of the *Regulation* states that a forestry operation "means a workplace where work is done in relation to silviculture or harvesting trees, including constructing the means of access and transporting the harvested trees to a facility where they are processed or from which they are exported." Workers who fall trees in such workplaces will have to be trained and certified in accordance with section 26.22 of the *Regulation*. For discussion of what "forestry operation" is intended to cover, please refer to Guideline [G26.1-1 Forestry operations and similar activities](#).

Faller training

To address the need for acceptable training, WorkSafeBC, in conjunction with forest industry employer associations, representatives of organized labour, and experienced hand fallers, has developed a faller training standard that meets the requirements of section 26.22 of the *Regulation*.

The delivery of training and certification meeting the *BC Faller Training Standard* (BCFTS) is administered by the following organizations:

- [BC Forest Safety Council \(BCFSC\)](#)
- [Energy Safety Canada](#) (the safety association for the upstream oil and gas industry)
- [Wildfire Management Branch](#) (Ministry of Forests, Lands & Natural Resource Operations).

For more information about faller training and certification and for the contact information of the BCFTS administrators, please refer to the [Faller Training and Certification web page](#).

The *BC Faller Training Standard* consists of two primary components. The first component addresses new faller training, and covers the selection and use of appropriate personal protective equipment, the maintenance and operation of falling equipment, and tools, hazard recognition and control, and safe falling, bucking and limbing procedures. The second component involves a written exam and a practical field evaluation of the faller's falling abilities, which, if successfully completed, will result in the issuance of a certificate to the faller.

Other courses

WorkSafeBC recognizes that other training courses may be developed that may meet the requirements for acceptance under section 26.22(1) of the *Regulation*. WorkSafeBC will review any proposed courses for acceptance to ensure consistency with the *BC Faller Training Standard*. Any new courses WorkSafeBC identifies as acceptable under section 26.22(1) of the *Regulation* will be added to this guideline for the information of workplace parties and WorkSafeBC prevention officers.

Persons wishing to have WorkSafeBC consider an alternative course for acceptance under section 26.22(1) of the *Regulation* may submit that course to WorkSafeBC for review and evaluation. Please contact WorkSafeBC Certification Services at (604) 276-3090 for further information.

Forestry operation fallers – Employer's obligation to ensure faller qualified

While the obligations in section 26.22 regarding receiving training are imposed on workers in a forestry operation, employers should note their obligations under section 26.21 of the *Regulation*.

Employers are required, as part of the obligation in section 26.21 to verify that fallers have received WorkSafeBC approved training. This can be done by ensuring that the faller possesses a valid faller training certificate or by enquiring with the *BCFSC*.

In addition to verifying that the faller has received WorkSafeBC approved training, employers are required to ensure that fallers are able to fall safely the size and type of timber that the faller will encounter in the conditions (such as terrain) that will be present at the workplace. Faller experience should be documented in the log book issued to each faller as part of the training process. Reviewing this information will assist the employer to make an appropriate decision whether the faller is qualified for the conditions he or she will encounter. Employers should also evaluate the workmanship of the faller as part of determining whether the faller is capable of falling safely in the conditions he or she will face.

If the employer determines that a faller is not capable of falling the type of timber present in the workplace, the employer must either refuse to permit the faller to fall trees in those conditions, or provide the necessary training that would allow the faller to safely perform that work. Where training is provided, the employer should include the training information in the faller's log book.

Section 26.21 – Fallers in "similar activities" to forestry operations

While section 26.22 applies to fallers in forestry operations, section 26.21 is not restricted to "forestry operations" (refer to guideline [G26.1-1](#) for information on the application of Part 26 to forestry and similar operations).

Employers at workplaces that are not "forestry operations" but who will have workers falling and bucking trees must ensure that these workers are qualified for the tasks they will be carrying out. These types of operations may include the following:

- Arborist Technicians and Utility Arborists in forestry settings
- Parks workers
- Firefighters falling in emergency circumstances
- Land clearing where timber is being felled but not being "harvested"

HortEducationBC (HEBC) is authorized by WorkSafeBC to certify Arborist Technicians and Utility Arborists in falling and bucking activities. This certification allows Arborist Technicians and Utility Arborists to fall and buck trees within the scope of arborist work only. The certification offered through the HEBC provides qualifications acceptable to WorkSafeBC for Arborist Technicians and Utility Arborists under section 26.21, but does not constitute faller training or certification for workers in a forestry operation under section 26.22.

G26.21-1 Arborist Qualifications

Issued March 9, 2012; Editorial Revision October 28, 2015

Regulatory excerpt

Section 26.21 of the *OHS Regulation* ("Regulation") states:

- (1) A worker must not fall trees or be permitted to fall trees, or conduct or be permitted to conduct bucking activities associated with falling trees, unless
 - (a) the worker is qualified to do so to a standard acceptable to the Board, and
 - (b) the work being performed is within the documented and demonstrated capabilities of that worker.
- (2) Subsection (1) (a) does not apply to a worker who is in a falling or bucking training program that is acceptable to the Board.

Purpose of guideline

This guideline is intended to set out the standard acceptable to WorkSafeBC for the qualifications for Utility Arborists and Arborist Technicians.

Background

Part 26 of the *Regulation* applies to forestry and similar operations. Section [26.22](#) sets out the qualifications necessary to fall trees in a forestry operation. Section 26.21 applies to workers in operations other than forestry who fall trees. In many contexts, Utility Arborists and Arborist Technicians will fall trees in operations similar to forestry. For the purposes of this section, Utility Arborists are workers that undertake work required to prune or clear vegetation in proximity to energized electrical equipment, structures, or conductors. Arborist Technicians are workers that undertake work required to prune or clear vegetation from targets (buildings, roads, parks, walkways, etc.) within an urban forestry setting.

Qualifications to fall trees

The qualification required for Utility Arborists and Arborist Technicians involves two components.

First, the Utility Arborist or Arborist Technician must have completed the relevant Industry Training Authority ("ITA") approved training program, including the modules on falling and bucking of trees. That program involves both classroom training delivered through public post-secondary institutions, private training institutions, and secondary schools that have been approved by the ITA; as well as a minimum number of hours of work experience.

Second, the Utility Arborist or Arborist Technician must have successfully completed an assessment by a Qualified Supervisor/Trainer, arranged through HortEducationBC.

Other courses

WorkSafeBC recognizes that other training courses may be developed that may meet the requirements for acceptance under section 26.21(1). WorkSafeBC will review any proposed courses for acceptance to ensure it meets a standard acceptable to WorkSafeBC. Any new courses WorkSafeBC identifies as acceptable under section 26.21(1) will be added to this guideline for the information of workplace parties and WorkSafeBC prevention officers.

Persons wishing to have WorkSafeBC consider an alternative course for acceptance under section 26.21(1) may submit that course to WorkSafeBC for review and evaluation. Please contact Certification Services at (604) 276-3090 for further information.

G26.21-2 Faller qualifications – Performance upgrade

Issued January 23, 2015

Regulatory excerpt

Section 26.21(1) of the *OHS Regulation* ("Regulation") states:

A worker must not fall trees or be permitted to fall trees, or conduct or be permitted to conduct bucking activities associated with falling trees, unless

- (a) the worker is qualified to do so to a standard acceptable to the Board, and
- (b) the work being performed is within the documented and demonstrated capabilities of that worker.

Purpose of guideline

The intent of section 26.21 of the *Regulation* is to ensure that fallers are capable of safely performing falling or bucking duties, without incurring danger to themselves or others. This is not a single point in time requirement. It applies on an ongoing basis.

There may be occasions where a WorkSafeBC prevention officer determines that performance upgrade training is required in order to reinstate a faller to the demonstrated skill level necessary to safely continue falling duties. This guideline provides an explanation of that determination and the accompanying processes.

Background

During a workplace inspection, a prevention officer may observe falling practices that are in contravention of the *Regulation*. Prevention officers will consider issuing orders to those persons who have not fulfilled their responsibilities under the *Workers Compensation Act* ("Act") and *Regulation*. Orders against an employer or prime contractor will be issued on an inspection report. Orders written against a worker will be issued on an Order to Worker (OtW) report. OtWs may also be issued against an employer, if the employer is acting in the capacity of a worker. Refer to OHS Guideline [G-D3-116 Orders to workers](#) for more information on orders to workers.

WorkSafeBC documentation, discussions, and orders *without* remedial training order

If a prevention officer determines that the faller's duties can safely continue when one or more contraventions have been observed, the prevention officer will document the contraventions in the report of the inspection and will clearly state and document compliance expectations. Compliance expectations will include a statement of the associated regulatory requirements and any actions required of the person, e.g., a requirement to submit a notice of compliance to WorkSafeBC. A prevention officer may schedule a follow-up inspection within several weeks to validate safe performance of the faller's work practices.

WorkSafeBC documentation, discussions, and orders *with* remedial training order

If, during a workplace inspection, a prevention officer determines that the faller's duties cannot continue safely, because of the high risk of serious injury or death to the faller or to others, the prevention officer may inform the faller, employer, and licensee that the faller is not permitted to continue falling without undergoing a performance upgrade training plan with a Qualified Supervisor/Trainer (QST).

WorkSafeBC inspections and inspection reports will focus on work site observations. There may be a number of contributing factors to observed contraventions of the *Regulation*, e.g., personal circumstances may cause a faller to be distracted from his work, and employers and workers need to be aware of the requirements of sections [4.19 \(Physical or mental impairment\)](#) and [4.20 \(Impairment by alcohol, drug or other substance\)](#) of the *Regulation*.

When an OtW is issued with respect to observed practices, it will include a clear statement of the contraventions, regulatory requirements, and performance expectations as necessary. The order will include a statement that the faller is restricted from falling trees in any forestry operation until the faller receives performance upgrade training from a qualified person (QST) or administrator-approved industry trainer, has undergone re-evaluation by a QST and has demonstrated competency levels meeting the requirements of section 26.21 of the *Regulation* and the competencies of the *BC Faller Training Standard*.

After discussions with the faller, the site supervisor and, as necessary, a WorkSafeBC QST, the prevention officer will clearly state (and document in the report) the minimum areas of practice that the performance upgrade training must address, with reference to the relevant section(s) of the *BC Faller Training Standard*. Before issuing this order, a prevention officer will normally consult with the WorkSafeBC senior regional officer for forestry.

An order for faller performance upgrade training does not necessarily restrict the faller from working in another role that he/she is qualified to perform, e.g., the faller may do bucking duties or operate a piece of equipment provided he/she is competent to do so.

Orders for performance upgrade training will not usually be written after a single observed violation unless the contravention is flagrant in nature. For example, such an order will not usually be written after a faller encountered an unpredicted situation such as cutting into a pocket of rot that was not observable from the outside of the tree. Usually, an order requiring performance upgrade training will be written in the following two circumstances:

- The faller has demonstrated a pattern or sequence of falling practices that are high risk and could, under different conditions, put the faller or others at risk of serious injury or death.
- The faller has committed a flagrant contravention of the *Regulation*, putting persons at immediate risk of serious injury or death.

A prevention officer will document the evidence obtained at the site that is relevant to the written orders. Evidence will be included with the inspection report or OtW and will typically include one or more of the following:

- Measurements of trees and labelled stumps, and identification of the tree species
- Annotated photographs as necessary, e.g., photos of measurements taken, labelled stumps, timber damaged from excessive brushing
- Site diagrams

- Notes of interviews with the faller and/or site supervisor
- Copies or excerpts of the fallers log book and any relevant training records
- Records of faller orientation and block start-up meetings

When issuing the order, a prevention officer will also inform the faller, and where practicable the faller's supervisor, of the following:

- The faller is not permitted to continue falling timber without successfully completing a performance upgrade training plan.
- The faller is to inform his supervisor, and any subsequent employers, that he has been removed from falling work until he has successfully completed performance upgrade training.
- The faller can request a full explanation from the prevention officer of the reasons for the written order(s) as well as a reconsideration of the issuance of the order(s). The faller can also initiate an informal review of the order(s) by contacting the prevention officer's regional prevention manager or the WorkSafeBC manager of interest for forestry.
- The faller has a right under the Act to have the order(s) impartially and formally reviewed by the Review Division of WorkSafeBC (this right is also documented in the report).
- A request for review does not constitute a stay of the order(s) issued. Failure to comply with the order(s) may result in further enforcement actions by WorkSafeBC.

Other responsible parties

When issuing orders to a faller, the prevention officer will also consider whether the other worksite parties have fulfilled their responsibilities under the *Act* and *Regulation*. For example, the prevention officer will consider whether the faller was properly supervised, whether the employer fulfilled its responsibilities under [section 115](#) of the *Act* and where applicable, whether the prime contractor has fulfilled its responsibilities under [section 118](#) of the *Act*. The prevention officer will also consider any owner/licensee's contractual agreement with a prime contractor and related responsibilities under [section 119](#) of the *Act*. For high risk and repeated contraventions, the prevention officer will also consider whether further enforcement activity is required, e.g., administrative penalty.

Faller performance upgrade training and re-evaluation

A faller who has been issued an order for performance upgrade training is restricted from falling duties until the training plan is complete and a prevention officer has closed the order. The faller needs to initiate the training plan by contacting an administrator of the *BC Faller Training Standard* (refer to OHS Guideline [G26.21/26.22](#)) or by directly contacting a QST. The employer or licensee may be able to help with that contact. The training plan needs to include retraining in the areas documented in the order by the prevention officer, and a *full* re-evaluation by a QST.

The upgrade training will be done by a QST or an industry trainer, using the applicable sections of the *BC Faller Training Standard*. The *full* competency re-evaluation needs to be completed and documented using the Field Examination and Evaluation form. The completed form must be signed by a QST and must include the date of the assessment and the QST Identification Number.

Compliance considerations for WorkSafeBC

Once a faller has completed the performance upgrade training plan, including re-evaluation and competency confirmation, a copy of the signed and dated Field Examination and Evaluation form needs to be sent to the originating prevention officer, along with contact information for the faller and the QST.

Once the faller has successfully completed the compliance expectations (training plan) of the issued order, the prevention officer will create a follow-up inspection report or OtW report documenting compliance with the order. The faller needs to have a copy of the WorkSafeBC follow-up report before resuming falling activities.

G26.22(7) Forestry operation faller training – Challenge process

Issued May 9, 2014

Regulatory excerpts

Section 26.22(2) of the *OHS Regulation* ("*Regulation*") states:

Without limiting subsection (1), faller training must include the following:

- (a) taking basic training in falling trees by working one-on-one with a qualified faller or trainer for a period of not less than 30 days;
- (b) in the presence of a qualified supervisor or trainer, taking a written or oral examination on falling;
- (c) after completion of basic training under paragraph (a) and passing the examination under paragraph (b), working as a trainee faller under the close supervision of a qualified faller or trainer for a minimum period specified in subsection (3).

Section 26.22(7) of the *Regulation* states:

Subsection (2) does not apply to a worker who satisfies all of the following requirements:

- (a) the worker has performed falling duties regularly for at least 2 years before the evaluation under paragraph (b) of this subsection takes place;

- (b) the worker's falling activity is evaluated by a qualified supervisor or trainer and it meets a standard acceptable to the Board;
- (c) in the presence of a qualified supervisor or trainer, the worker passes a written or oral examination on falling;
- (d) the worker is certified in writing as a competent faller by a person acceptable to the Board.

Purpose of guideline

This guideline addresses the following questions related to the challenge process anticipated by section 26.22(7) of the *Regulation*.

- What are the steps of the challenge process?
- How is "at least 2 years" of experience referenced in paragraph (a) measured?
- When must the "at least 2 years" of experience have occurred?
- What does "performed falling duties" mean?
- Can experienced fallers from one industry use the challenge process to obtain certification in another industry?

Background information

In order for faller training to be acceptable to WorkSafeBC under section 26.22, it must meet the *BC Faller Training Standard*, or another standard that WorkSafeBC has identified as acceptable. Refer to OHS Guideline [G26.21/26.22 Faller training – Application](#) for further details of training acceptable to WorkSafeBC.

Requirements for faller training were originally included in the *Regulation* in 1998. The precursor of the challenge process currently contained in section 26.22(7) was intended as a grandfathering provision to ease implementation of the new training requirements by permitting experienced fallers to avoid the full training program, provided these experienced fallers were able to successfully complete a competency challenge. The full training program was intended for new fallers, or those experienced fallers that could not successfully complete a challenge process.

[Part 26](#) of the *Regulation* was revised and updated in 2008. At that time, the challenge process was retained in section 26.22(7) to permit trained and qualified fallers, including those from other jurisdictions, to avoid having to retrain through the use of the challenge process. As the faller training program had been in place for a number of years, it was not contemplated that the challenge process would continue to apply to experienced but untrained and uncertified fallers within British Columbia, since the skills of any experienced fallers that had not availed themselves of the opportunity to be grandfathered would have deteriorated, and it was considered appropriate that such fallers undertake retraining.

The challenge process is administered through the organizations that administer faller training and certification programs (the "Administrators"). Refer to OHS Guideline [G26.21/26.22 Faller training – Application](#) for further information about the Administrators.

Question 1: What are the steps of the challenge process?

The Administrators will use a challenge process that they have developed. In general, it will include the following steps:

- A check of the credentials of the challenger. The Administrator will need to see evidence that the challenger has an appropriate level of training.
- An initial skills assessment. The Administrator will need to observe the basic skills of the challenger to determine that no one is at risk of injury during the challenge process.
- A written or oral examination on falling, in the presence of a qualified supervisor or trainer.
- A thorough field examination and evaluation of the challenger's competence in falling.

It is necessary to successfully complete all four steps in order to successfully complete the challenge process. A certificate issued to a faller who has successfully completed the challenge process is indistinguishable from a certificate issued to a faller who has completed the full training program.

Notwithstanding that a faller holds a certificate, an employer must ensure that assigned work is within the documented and demonstrated capabilities of the faller (refer also to section [26.21](#) of the *Regulation*).

Question 2: How is two years of experience measured?

The first issue for clarification is how, given the seasonality and irregular work schedules of typical forestry operations, is the two years of experience calculated for the purposes of section 26.22(7)?

Falling duties must have been performed regularly for at least two years. It is important that falling be conducted for a substantial portion of the available work season in order to be viewed as having been conducted regularly for the two years under consideration.

WorkSafeBC would consider a faller as having performed production falling duties regularly for a minimum of two years in both the forestry and/or the oil and gas industries, if falling duties are conducted for a minimum of 60 days for each of two calendar years.

The faller needs to provide verifiable documentation from his or her employer(s) that states the faller conducted falling duties for the required number of days. Acceptable documentation includes a reference and/or history of employment letter and one or more log books, or equivalent. The log books need to include a detailed training and work history.

Question 3: When must the two years of experience have occurred?

This issue relates to how recent the two years of experience must be. Section 26.22(7) refers to performing falling duties regularly for at least two years before the evaluation. The wording of the section suggests that the two years of experience immediately precedes the evaluation, or at least is relatively proximate to the evaluation. Falling experience well in the past, or that is extremely intermittent, would not constitute duties regularly performed for at least two years before the evaluation.

As section 26.22(7) anticipates relatively uninterrupted experience immediately preceding the evaluation, WorkSafeBC would consider the two years of experience to have occurred in the period directly leading up to the challenge process. Seasonality of the work and other reasonable factors may be taken into consideration by the Administrators when considering the window of opportunity in which the falling duties were carried out before the anticipated challenge date, and that this would be done on a case by case basis with some flexibility. For example, if the two years of falling experience have been acquired over a time period that stretches beyond four years immediately prior to the date of challenge, it should not be considered current experience.

The challenge process is intended to permit fallers already working, with current skills, to continue to work provided they can confirm their competency. It is not intended to permit workers with past or inconsistent experience to re-enter the industry without completing the full faller training program.

Question 4: What does "performed falling duties" mean?

Section 26.22(7) states that the falling duties must have been performed regularly for at least two years.

The faller needs to have conducted manual tree falling as his or her primary function, with the predominant portion of each of the required number of days being composed of manual tree falling and related duties. Manual tree falling and related duties would include the following:

- Planning and constructing escape routes
- Dealing with dangerous trees
- Bucking felled trees and logs
- Establishing minimum and maximum distances between fallers and other workers
- Summoning and rendering assistance to manage a falling difficulty or dealing with an emergency
- Controlling the fall of trees
- Minimizing unnecessary brushing
- Using mechanical assistance to fall trees
- Ensuring the well-being of each faller and buckler

The primary focus needs to be the actual falling activity.

Question 5: Can experienced fallers from one industry use the challenge process to obtain certification in another industry?

Section 26.22(7) permits fallers with recent experience to undertake the challenge process, so that those fallers who have recent skills and training are able to continue working without being put through the time and expense of a full faller training program. Fallers from within British Columbia or elsewhere that do not have the necessary recent training or experience are excluded from this process.

The limitations on proceeding through the challenge process contained in section 26.22(7) do not restrict fallers within one industry from challenging the evaluation to become qualified in another, provided the challenge process is in an industry subject to section 26.22 – that is, it relates to falling in a forestry operation and is training acceptable to WorkSafeBC, applying the *BC Faller Training Standard*.

There is no limitation on having performed falling duties within a specific industry or of a specific type. Provided they are qualified in an industry governed by section 26.22 applying the *BC Faller Training Standard*, fallers can challenge the evaluation offered by Administrators in another industry. For example, production fallers may challenge through the oil and gas certification Administrator, and fallers from oil and gas may challenge the requirements through the production faller Administrator, though arborists, parks workers, or workers in agricultural operations are not entitled to use the challenge process to become qualified fallers in a forestry operation. In such circumstances WorkSafeBC prevention officers would view these certifications as invalid and non-compliant with sections 26.22 and 26.21.

Occupations such as arborists, parks workers, and agricultural workers may involve falling of trees, but do not generally involve regular performance of falling duties for the purpose of satisfying the challenge requirements. Other occupations may also fall into this category and be deemed ineligible to challenge the faller training requirements as determined by the Administrator of *BC Faller Training Standard* and Faller Certification on a case by case basis.

It is important to note that section 26.21 still limits the ability of the faller who has successfully challenged the evaluation to fall trees not only to the faller's "documented" capabilities, but also to the faller's "demonstrated" capabilities. Successfully challenging the evaluation under section 26.22(7) means the faller has met a minimum standard, and meets the competencies in the *BC Faller Training Standard*. However, the employer still needs to ensure the faller is capable of undertaking the specific work the employer has hired that faller to do.

Summary

Section 26.22(7) permits fallers who have performed falling duties regularly for at least two years before the evaluation to challenge a competency evaluation and avoid completing full faller training. Two years of experience means 60 days in each of two calendar years for oil and gas fallers, as well as for production harvesting fallers. The two years of experience must be reasonably contiguous with the date of the evaluation. The faller must have been primarily engaged in duties associated with falling trees during that time. Fallers that challenge the requirements must have training that is acceptable to WorkSafeBC, meaning it meets the requirements of the *BC Faller Training Standard*.

While the challenge process is available to fallers with current experience from outside of British Columbia, and to fallers with current experience in industries governed by Part 26, the challenge process is not available to fallers with less recent experience, or in industries that are not "forestry operations and similar activities" and which may have qualifications, but not qualifications covered by section 26.22.

G26.28 Summoning qualified assistance

Issued June 26, 2014

Regulatory excerpt

Section 26.28 of the *OHS Regulation* ("*Regulation*") states:

- (1) Qualified assistance must be readily available to fallers in case of difficulty, emergency or injury.
- (2) Fallers and buckers must have an effective means to summon assistance.

Section 26.23(2)(h) and (j) of the *Regulation* states:

- (2) Fallers and buckers associated with falling activities must be provided with and follow written safe work practices acceptable to the Board for the type of work activity they perform, including procedures for the following:
 - (h) summoning and rendering assistance to manage a falling difficulty or to deal with an emergency;
 - (j) ensuring the well-being of each faller and bucker at least every half hour and at the end of the work shift.

Purpose of guideline

The intent of section 26.28 of the *Regulation* is to ensure fallers have qualified assistance readily available and have an effective means of summoning that assistance. This guideline provides an explanation of some of the terms used in the regulatory requirements.

Difficulty, emergency, or injury

The *Regulation* requires that assistance be readily available for situations of difficulty, emergency, or injury. In the context of this section, these terms have the following meanings:

Difficulty — A difficult situation for a faller is one where advice or assistance is needed before work can proceed but the situation is not urgent.

Emergency — An emergency for a faller is a situation where urgent action is required to prevent or control a hazard or otherwise allow a quick return to normal operations. There is usually less time for planning in an emergency. An example would be when a windstorm has caused blocked egress from the bush.

Injury — Any incident requiring first aid service.

Qualified assistance

Part 1 of the *Regulation* defines "qualified" as being knowledgeable of the work, the hazards involved and the means to control the hazards, by reason of education, training, experience or a combination thereof.

In section 26.28(1), "Qualified assistance" means a person(s) capable of effectively helping or advising and assisting a faller. The qualifications necessary to advise or assist will differ depending on whether the need is because of difficulty, emergency, or injury. In the case of a falling difficulty, another certified faller or qualified falling supervisor may be necessary to provide advice or assistance, whereas a person with first aid certification will be required in the case of injury. The required response times will also depend on the assistance required. First aid and emergency assistance usually need to be available more quickly than assistance to resolve a falling difficulty.

Guidance on the timeliness of first aid response can be found in OHS Guideline [G3.18\(2\) Availability of a first aid attendant](#). Required response times for qualified assistance regarding falling difficulties and dangerous tree scenarios can be different from first aid response. Resolution of these situations may take some time and does not necessarily require having someone immediately available for assistance if the hazard to workers is controlled during the wait period e.g., for a dangerous tree, the faller follows the process of marking the hazard area, informs his or her supervisor and any affected workers, and stays out of the area until a resolution is planned. Qualified assistance may then come from another faller, a qualified falling supervisor, a machine operator, etc.

In some ground skidding operations, single fallers are watched by machine operators. This may provide acceptable access to qualified assistance as long as all the necessary assistance is available e.g., if the machine operator is a first aid attendant, is able to readily observe the faller, drive right up and use the machine to rescue or assist the faller, and evacuation is not exceptionally difficult. This is not the case in most cable yarding operations on steep ground, as mobile equipment cannot usually access the falling area. In this case, the required assistance for a faller would be from another faller or qualified falling supervisor.

In steep logging operations, the only person that can effectively assist a faller in case of difficulty, emergency, or injury, is another faller or another worker who has equivalent skills. If, for instance, a faller is pinned by a log or tree, rescue can usually only be accomplished by someone who knows how to assess falling hazards and can buck him out. An occupational first aid attendant, machine operator, etc., usually cannot do this.

Regardless of the means utilized by the employer to make assistance readily available, the person providing the assistance must:

- Be available to be summoned.
- Have an effective method of being summoned.
- Be prepared, equipped, and able to promptly render first aid. Prompt provision of first aid service means the first aid attendant can reach injured workers within 10 minutes. Refer to OHS Guideline G3.18(2).
- Know the faller's location.
- Be trained in the requirements of safely approaching and obtaining permission to enter the hazard area (two tree lengths).

Falling partner system

In practice, fallers often rely on a "falling partner systems" for the required assistance. A partner system is an arrangement whereby two fallers are positioned in work areas such that they can readily attend and assist each other. In this system, each faller has a designated falling *partner*. More than two fallers may be included in this arrangement provided that each faller has the same access to assistance as if he or she were attended by a single designated *partner*.

The fallers' work areas must be arranged to provide sufficient room for them to be clear of the area within a two-tree length radius of the trees being felled, as required by section [26.24\(1\)](#) of the *Regulation*.

In this system, each faller has a knowledgeable and capable worker (qualified assistance) within beckoning distance to offer advice in case of difficulty and assistance in case of emergency. Accident investigations have resulted in recommendations that the injured faller should have called his *partner* over to help with a difficult or dangerous situation. This call is unlikely to happen if the only assistance available is a grade excavator operator (requiring a means of contact, caulk boots put on, etc.) or a faller at another helipad (requiring a means of contact, a helicopter to pick him up and take him to the pad, find his way to the falling site, etc.). Thus, relying on the grade operator in this example does not meet the requirement for qualified assistance.

A *partner system* would be an appropriate choice for the following:

- Work in steep areas
- Falling timber under conditions that may result in the need for advice or assistance which can only be provided by another experienced faller
- Work in areas where the faller could be pinned by rolling logs or falling trees, and cannot readily be reached by equipment capable of freeing them

At the faller's location, the *partner* must do the following:

- Be able to affect rescue if required. If, for instance, a faller is pinned by a log or tree, rescue can usually only be accomplished by another faller or someone who can assess and mitigate imminent danger, obtain a chain saw if the faller's is not available, judge pivot points, position, and use wedges, and otherwise be able to buck the faller out without aggravating the situation.
- Be able to slash a path for evacuation, if required.
- Have sufficient knowledge to discuss a falling or bucking difficulty or emergency, and help plan strategy.
- Be able to assist in overcoming the difficulty or emergency.

Workers other than certified fallers may be a *partner* only if they can provide equivalent level of assistance and fulfill the other requirements of the *Regulation*.

No falling partner

There is no regulatory requirement for an employer to utilize a *partner system* to provide the necessary qualified assistance. Subject to the criteria explained above in this guideline, a system utilizing qualified assistance from other than another faller in proximity may satisfy the regulatory requirements where the faller is in the following:

- In an easily accessible location
- Able to safely wait for assistance, mark the hazard area, and inform others of the hazard
- Performing work in areas where, if he or she could be pinned by rolling logs or falling trees, he or she could readily be reached by a qualified person(s) or equipment capable of freeing him or her
- The only faller employed at the operation
 - has another qualified person available to provide emergency services
 - another faller or qualified falling supervisor can be brought in to assist in overcoming falling difficulties

Safe work practices and procedures

The documented falling plan required by section [26.2](#) of the *Regulation* needs to include provision for qualified assistance.

For example, section 26.23(2)(h) requires that fallers and buckers be provided with and follow written procedures specifying the means of summoning and rendering assistance in case of falling difficulty or emergency. The procedures will need to address all three areas — falling difficulty, emergencies, and injury.

Section 26.23(2)(i) requires that fallers and buckers be provided with and follow written safe work procedures for ensuring the well-being of each faller and buckler at least every half hour and at the end of the work shift. The written procedures must specify the nature and timing of the checks.

Summoning assistance

Section 26.28(2) requires that fallers and buckers have an effective means of summoning assistance. The means will depend upon the circumstances. Many fallers use a radio. A whistle, although sometimes not as effective as other methods, is fairly reliable, is the minimum means,

and should be available to all fallers. The whistle needs to be checked periodically and should be fastened in a location that will allow the faller to blow it even if his arms are pinned. Note that a "pea" whistle may not be effective in areas where the "pea" can freeze.

In a situation where an equipment operator provides qualified assistance, a whistle is not likely to be an acceptable means of summoning assistance due to the noise levels of the equipment and the airtight nature of many cabs.

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EQUIPMENT OPERATION

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MANUAL FALLING AND BUCKING

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TRAFFIC CONTROL FOR FALLING OPERATIONS

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G26.68 [Binder cinches](#)

G26.69(2)(b) [Safe work procedures for the use of a binder removal station](#)

G26.1 Definition of resource roads

[Section 1.1](#) of the *Regulation* exempts resource roads from being considered a workplace. For further discussion please refer to OHS Guideline [G1.1\(1\)](#).

G26.1-1 Forestry operations and similar activities

Issued May 1, 2008

Section 26.1 of the *OHS Regulation* ("*Regulation*") states:

"forestry operation" means a workplace where work is done in relation to silviculture or harvesting trees, including constructing the means of access and transporting the harvested trees to a facility where they are processed or from which they are exported.

Purpose of guideline

The purpose of this guideline is to describe the scope and application of the requirements of Part 26.

"Forestry Operations and Similar Activities" and the application of Part 26

The title of Part 26 of the *Regulation* is "Forestry Operations and Similar Activities." This title reflects the intent to capture in the scope of Part 26 not only those workplaces that are involved in forestry operations as defined in s. 26.1, but operations that have similar characteristics, hazards and work processes.

The application of a specific provision in Part 26 will depend on the wording of the particular section. Certain provisions in Part 26 will state that they relate only to "forestry operations," while others will not be limited by the use of this term.

For example, [section 26.2](#) requires all aspects of a forestry operation to be planned and conducted in a manner consistent with this *Regulation*. " This section would only apply to owners of workplaces that fall within the definition of a forestry operation by being workplaces "where work is done in relation to silviculture and harvesting trees... "

In contrast, [section 26.21](#) states that "a worker must not fall trees or be permitted to fall trees... " unless the worker is qualified and only performs work within his or her documented capabilities, and does not restrict itself to workers in a "forestry operation." As this section does not refer specifically to forestry operations, it can be applied more broadly to both forestry operations and similar activities.

What is work relating to "harvesting trees"?

The definition of "forestry operation" includes "work done in relation to ... harvesting trees." WorkSafeBC considers work relating to "harvesting trees" to be any operations that are undertaken pursuant to a permit, license or other tenure or permission from the Ministry of Forests or other government agency. In particular, this includes any falling activity on land designated as provincial forest, which includes Crown forest land, range land, or private land that is subject to a tree farm license, community forest agreement or a woodlot license. "Forestry operations" may also include any falling that is done on private land that is not subject to a timber tenure, provided that the harvesting is undertaken as part of an enterprise that has as a purpose falling trees for the purposes of selling or processing them to be made into merchantable wood products.

For greater certainty, WorkSafeBC considers the following to involve "harvesting trees" and to therefore be "forestry operations":

- Harvesting timber for processing or sale either pursuant to a license or permit from the Provincial Government, or on a private woodlot
- Falling trees in connection with forest fire fighting or fire prevention activities
- Falling trees in connection with oil and gas exploration and site preparation, including seismic line falling

Workers who exclusively fall trees that measure less than 15cm (6") diameter at 30cm (12") height are not considered to be engaged in harvesting trees.

"Similar activities"

Certain types of operations that do not fit the definition of "forestry operations" in s. 26.1 may present similar types of working conditions and hazards as forestry operations. Despite not being "forestry operations," it is appropriate that certain elements of Part 26 apply to these operations, given the similarities. For example, an arborist crew that falls trees in order to maintain rights of way for electrical conductors in remote locations will perform work very similar to a typical forestry operation, though, depending on the type of work they are doing, they may not fall within the definition of a "forestry operation." In such a case, there must be compliance with the procedures for falling and bucking in sections [26.23 through 26.29](#), as those sections are not specific to "forestry operations," though a Notice of Project under [s. 26.4](#) need not be filed, as that requirement is limited to certain forestry operations.

G26.16 Slope limitations - Safe work procedures

Issued November 18, 2009; Revised April 13, 2011

Regulatory excerpt

Section 26.16 of the *OHS Regulation* ("*Regulation*") states:

- (1) Repealed. [B.C. Reg. 312/2003, effective October 29, 2003.]
- (2) If the manufacturer's maximum slope operating stability limit for logging equipment is known, the equipment must be operated within that limit.
- (3) If the manufacturer's maximum slope operating stability limit for logging equipment is not known, the equipment must be operated within the following limits:
 - (a) a rubber tired skidder must not be operated on a slope which exceeds 35%;
 - (b) a crawler tractor, feller buncher, excavator and other similar equipment must not be operated on a slope which exceeds 40%;
 - (c) any other forestry equipment specifically designed for use on a steep slope must not be operated on a slope which exceeds 50%.
- (4) Despite subsections (2) and (3) but subject to subsection (5), logging equipment may be operated beyond the maximum slope operating stability limits specified in those subsections if

(a) a qualified person conducts a risk assessment of that operation, and

(b) written safe work practices acceptable to the Board are developed and implemented to ensure the equipment's stability during operation.

(5) Despite anything in this section, logging equipment must not be operated in a particular location or manner if its stability cannot be assured during that operation.

Purpose of guideline

This guideline is intended to give direction as to what is required for an employer to fulfill the obligations of sections 26.16(4)(a)(b) and 26.16(5) with respect to the development of safe work procedures for the operation of equipment beyond the limitations in section 26.16(3) and to ensure stability of logging equipment on steep slopes.

Operating logging equipment on steep slopes

The operation of logging equipment on steep slopes presents a serious hazard in the form of equipment rollover, which can result in serious injury or death to equipment operators and other workers. It is therefore crucial that logging equipment be operated within the manufacturer's safe operating stability limit. Where that limit is unknown, section 26.16(3) sets out slope limitations for particular pieces of equipment. Despite these restrictions, logging equipment may be operated beyond these slope limitations, provided that there is a risk assessment of the operation done by a qualified person and there are safe work practices acceptable to WorkSafeBC implemented during the operation.

The intention of sections 26.16(4)(a)(b) and 26.16(5) is to permit the employer and owner of the workplace to allow the slope stability limitations to be exceeded in situations in which it may not be viable or practicable to bring in an alternate harvesting system. Operating equipment for longer durations on slopes that are at or beyond the equipment's safe operating limit overburdens machinery. Because this activity increases workers' exposure to risk, these operations have to be carefully managed, planned, and supervised.

Steep slope operations need to involve careful management of both the hazards presented by the terrain and the duration of workers' exposure to the hazard.

In addition, employers and others should be mindful of the requirements of section 26.12.1(1) of the *Regulation*, which states

Any equipment designed for a specific function in a forestry operation or adapted for use in a forestry operation must be capable of performing safely the functions for which it is being used.

And, section 26.16(5) of the *Regulation* states

Despite anything in this section, logging equipment must not be operated in a particular location or manner if its stability cannot be assured during that operation.

The following sets out the required considerations for operating logging equipment on steep slopes beyond the manufacturer's maximum operating stability limit or the limits in section 26.16(3). In order to be compliant with section 26.16(4), such operations must be

- Adequately planned
- Subject to a thorough site-specific risk assessment, with defined steep slope sites identified
- Conducted in accordance with site-specific safe work practices acceptable to WorkSafeBC

Planning for steep slope logging

Section 26.2(1) of the *Regulation* states:

The owner of a forestry operation must ensure that all activities of the forestry operation are both planned and conducted in a manner consistent with this *Regulation* and with safe work practices acceptable to the Board.

Forestry operations must be properly planned and conducted in a manner consistent with the *Regulation* and safe work practices acceptable to WorkSafeBC.

Regulation section 26.2(3)(a) states that this obligation "include identification of any work activities or conditions at the workplace where there is a known or reasonably foreseeable risk to workers."

The planning of forestry operations must include identification of any steep slope areas in a cut block to determine how these areas will be dealt with. If a block that has been selected for harvest has slopes that are outside of the maximum operating stability limits of the machines intended for use at this workplace, then consideration must be given to whether the harvesting plan can be amended to identify a more appropriate selection of equipment or techniques for the workplace, such as specially designed steep slope equipment or a cable system.

Note that under sections [26.2\(3\)\(b\) and \(c\)](#), the planning of a forestry operation must be completed before work commences and documented. Therefore any identification of areas of steep slope logging and the plan regarding how to deal with those areas, including the risk assessment and the work procedures, must be carried out and documented before the work is undertaken.

Conducting the risk assessment

Once a cut block has been assessed and defined portions of the cut block have been identified as having slopes that will exceed the operating stability guidelines of the logging equipment, the first obligation of the employer prior to exceeding these slope limits is to have a qualified person

conduct a risk assessment. Based upon this risk assessment, appropriate site-specific safe work procedures are to be developed that will assure machine stability on the slopes.

The required elements of the risk assessment are to

- Identify and assess the steep slopes in the cut block
- Evaluate the duration of worker exposure to work in steep slope areas
- Evaluate risks posed by the characteristics of the terrain, including the following:
 - the degree of slope
 - terrain classification, and the soil conditions that can be expected, including depth of soils and underlying materials
 - ground roughness including rocky areas, loose soils, or materials
 - the impact of operations on the hydrology of the site, and any resulting effects on terrain stability
- Evaluate machine capabilities, limitations, and performance characteristics
- Consider operational factors such as
 - average tree size
 - approximate tree weights and species
 - allowable stump height
 - any harvesting site-specific specifications
- Consider environmental considerations such as weather, i.e. rain, wind, snow, frost, fog, etc.
- Consider how isolated the work will be and the proximity to assistance
- Determine any other relevant risk factors present at that workplace

In accordance with section 26.2(3)(c) of the *Regulation* the risk assessment must be adequately documented at the time of planning.

The risk assessment must be carried out by a "qualified person." The *Regulation* defines qualified as

"qualified" means being knowledgeable of the work, the hazards involved and the means to control the hazards, by reason of education, training, experience or a combination thereof

The "qualified person" for the purposes of section 26.16 must be capable of competently evaluating the elements of the risk assessment listed above. The person conducting the risk assessment for steep slope operations is expected to

- Possess extensive experience in working on steep slopes in variable terrain and conditions
- Be knowledgeable of the machines being used during the total harvesting operation; not just one phase such as bunching. The familiarity with the equipment must include the selection of the equipment, limitations on maneuverability and stability, and use of accessories which would increase traction or stability, e.g. chains or grousers
- Be familiar with the training needs and experience of the logging equipment operators
- Be familiar with the specific site to be harvested which would include knowledge of the terrain, soils, and weather variables for the location including the planned season of harvest
- Be knowledgeable in developing safe work procedures that are based upon a site-specific risk assessment.

Ideally the qualified person will possess formal training or trade certification (such as a Registered Professional Forester) that would suggest the person is capable of exercising responsible and sound judgment. Given that in order to complete the risk assessment there must be an overall understanding of the entirety of the steep slope logging operations, the qualified person should typically be someone other than the equipment operator, unless that operator is in a supervisory capacity and possesses the skills and knowledge outlined above.

Where the qualified person does not possess the knowledge or information outlined above, he or she needs to be capable of obtaining the information from others, and be capable of fully understanding the information and incorporating it into the assessment.

Developing and implementing safe work practices

In order to operate equipment in areas which exceed manufacturer's safe operating limits or the limits in section 26.16(3), safe work practices acceptable to WorkSafeBC must be developed and adequately documented.

The following elements are those that WorkSafeBC considers necessary for the safe work practices to be acceptable. In conducting inspections or investigations, WorkSafeBC prevention officers will compare the employer's safe work practices to ensure they meet the elements listed below.

a) Link to risk assessment

The site-specific machine stability steep slope safe work practices are to be created with specific reference to the conditions identified and evaluated in the risk assessment.

b) Identification of the work area

Where possible, the safe work practices should address minimizing the extent of the steep slope work and ensuring that the duration of worker exposure to steep slope areas is kept manageable.

This should also include, where possible, the identification of "no go" areas, including any cutoff points in the cut block that are designated as too steep, rocky, or unstable and are no go zones for the equipment being used.

Other considerations may include machine free zones or setback distances from environmentally sensitive areas, and areas that are prone to sliding or washout.

c) Equipment selection and operating procedures

Safe work practices are to cover equipment selection and set out which machine is most appropriate for use on the slope being harvested based upon a stability assessment of the machine. This stability assessment should consider things such as

- Manufacturer's specifications
- Consideration of features intended to facilitate equipment performance on steep slopes, such as self leveling cabs
- Safety equipment on the machine including Roll Over Protective Structures (ROPS) and seatbelts
- Visibility for operators
- Condition of the tires including inflation
- Use and condition of chains and band tracks, and on tracked equipment the condition of the tracks, grousers, and guarding

Note that equipment maintenance will be critical for machines used on steep slopes as break downs in these areas will compound the risk to the machine operators.

Safe work practices will have to address equipment selection even where equipment designed for steep slope situations is being used. However, the risk assessment and resulting safe work practices may be streamlined in such situations.

Specific procedures should address the following:

- i. Planning the direction of equipment travel for each piece of equipment used in the harvesting operation. This is to be considered with a view to keeping the logging equipment on the lowest gradient of slope during the work as well as providing the greatest stability for the equipment. Always avoid cross slope travel and winching a turn of logs at an angle to the machine. Always travel down slope keeping the logs tight to the apron and close to the machine.
- ii. Addressing the effects upon weight distribution and changes to the centre of gravity on the machine when negotiating the slope and any ground variations.
- iii. When operating a feller buncher, considering the width of the falling swath, as the slope increases in steepness usually the width of the swath will decrease. With an increase in the gradient of the slope the feller buncher will limit the slewing width which allows the operator to keep the felling machine's centre of gravity close to the face of the slope which increases machine stability.
- iv. Addressing how to effectively handle loads, for example, weight transfer when rotating larger trees on a steep slope which can be dealt with by drawing the tree towards the machine or felling at a 45 degree angle to the slope, or ensuring that loads on forwarders are moderate size and do not over balance the machine.

d) Address undertaking site modifications where appropriate

Procedures need to identify areas in which modifications to the site are acceptable and planned to increase machine stability. This could include the construction of skid trails or roads as appropriate.

e) Operator qualifications, training, and supervision

The safe work practices need to set out how the equipment operators will be trained and instructed on how the work is to be performed. In addition, they must set out how the work is to be supervised and monitored.

f) Dealing with emergencies

Procedures need to be in place for dealing with equipment breakdown, situations where equipment operators find themselves in difficulties, and for dealing with an upset condition. Equipment will have to be available to render assistance in such situations.

Implementing safe work practices

Safe work practices encompassing these elements must not only be developed, they must be implemented. Employers must ensure that these procedures not only exist, but that equipment operators and other workers involved in the operation are provided instruction and training in the procedures. [Section 26.3](#) of the *Regulation* requires all workers to have received training necessary to perform their duties. Though this training need not be overly formal, it needs to be adequately documented.

In addition, employers must ensure that these procedures are followed by these workers. This would involve adequate supervision and monitoring of the operations by qualified people and correcting any deviation from the procedures, as well as identifying any new risks that arise during the operations and adjusting the safe work practices accordingly.

Section 1.1 of the *OHS Regulation* ("Regulation") states:

"qualified registered professional" means

- (a) a professional engineer or professional geoscientist, and
- (b) in relation to a forestry operation, a person referred to in paragraph (a) or a registered professional forester, registered forest technologist or holder of a special permit under the *Foresters Act*;

Section 26.18 of the *Regulation* states:

In a forestry operation where there may be a risk of a landslide

- (a) the risk must be assessed in accordance with a standard acceptable to the Board,
- (b) if a risk is found to be present, written safe work procedures must be developed meeting the requirements of the standard, and
- (c) workers must be educated in the safe work procedures.

Purpose of guideline

The purpose of this guideline is to identify the acceptable standard for performing landslide risk assessments and developing written safe work procedures under section 26.18 of the *Regulation*. The guideline also clarifies that this work must be done by a qualified registered professional, with appropriate qualifications in landslide risk assessments.

Landslide risk assessments as professional work

Section 26.18 requires that landslide risks are assessed, and that safe work procedures are developed to address those risks. While section 26.18 does not specify who may perform this work, the work falls within the professional practices regulated under the *Engineers and Geoscientists Act* and the *Foresters Act*. These Acts prohibit individuals other than qualified registered professionals from performing this work.

The respective professional associations may place additional qualification requirements on their members to be able to perform landslide risk assessments. Where a WorkSafeBC prevention officer identifies that an individual is performing landslide risk assessments without being a qualified registered professional, or is otherwise unqualified, the prevention officer will refer that matter to the appropriate professional association. The prevention officer may also write orders under section 26.18.

Acceptable standards for landslide risk assessments and safe work procedures

Engineers & Geoscientists British Columbia (EGBC) and the Association of British Columbia Forest Professionals have developed the following three guidelines concerning landslides:

- *Guidelines for Managing Terrain Stability in the Forest Sector*
- *Guidelines for Professional Services in the Forest Sector – Terrain Stability Assessments*
- *Guidelines for Professional Services in the Forest Sector – Forest Roads*

The *Guidelines for Managing Terrain Stability in the Forest Sector* may be used to determine whether or not there is a risk of a landslide. Where a risk of a landslide is present, section 26.18 of the *Regulation* applies and the *Guidelines for Professional Services in the Forest Sector – Terrain Stability Assessments* (TSA Guideline) is an acceptable standard for performing the work under section 26.18.

The *Guidelines for Professional Services in the Forest Sector – Forest Roads* may be of additional assistance for employers applying the TSA Guideline where the risk of a landslide is connected to road building activities.

Landslide risks assessments, where necessary, should be incorporated into how a forestry operation is planned and conducted in accordance with section [26.2](#) of the *Regulation*.