



## Teaching Outline – Tailgate Version

**Teaching Topic:** Unexpected Events

**Delivery Date:**

**Type of Session:** Tailgate Session

**Session Length:** 12 minutes

### Materials required:

Facilitator should bring/set-up:

- OHS Regulations for reference (see excerpts in Appendix 1)
- A copy of Safe Work Procedures for Falling and BC Faller Training Standard info-flips
- Computer, iPad/Tablet or TV with DVD player to show the SAFER video

### Session Requirements:

- Space of sufficient size to accommodate the size of the group
- Instructor will need to take note of any unresolved questions and seek answers

### Training Outline and Suggested Times:

1. Introduce and explain the purpose of this module (brief)
2. Present video (4:21 minutes)
3. Use teaching notes to instigate discussion (2-3 minutes)
4. Competency Evaluation (2 minutes)
5. Closing remarks (1 minute)

**Detailed Outline:**

1. Introduce module – explain “what it is”
  - Unexpected events happen. This session emphasizes the importance of evaluating each situation before, during and after. A study of 1292 falling events by experienced fallers and 86 hours of observation revealed that 6.9% of the time, after the faller began cutting into the tree, something happened that he did not predict; and 1.2% of the time, the severity of the unexpected event was significant.
2. Present the SAFER video
3. Discussion – use the following discussion topics as a guide:
  - Why do unexpected events occur?
  - What are some critical observations that you’ve had to make as you are working and how have they impacted the sequence of events?
  - How do you typically manage unexpected events?
  - What types of steps can you take to mitigate the re-occurrence of these events in the future?
4. Competency Evaluation
  - Can you think of any changes you can implement in your own Quarter Management to help yourself be more proactive?
5. Closing remarks
  - Remember that how you adapt to new and changing information is important
  - Unexpected events happen to anyone, regardless of their experience level
  - A systematic assessment of trees can help to reduce the frequency and severity of unexpected events.

## Appendix 1: Regulatory References, Part 26: Forestry Operations and Similar Activities

### *Section 1: Definitions - Dangerous Tree*

**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,
- (e) or any combination of the conditions in paragraphs (a) to (d).

### *Section 2: Planning and conducting a forestry operation*

- (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 the identification of any work activities or conditions at the workplace where there is a known or reasonably foreseeable risk to workers,
  - (b) To 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.

### *Section 11: Dangerous Trees*

- (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.

#### *26.22.1 Falling supervisors for forestry operations*

- (1) A qualified supervisor must be designated for all falling and associated bucking activities in a forestry operation.
- (2) The supervisor designated under subsection (1) must
  - (a) ensure that the falling and bucking activities are planned and conducted in accordance with this Regulation,
  - (b) inspect the workplace of each faller at time intervals appropriate to the risks, and
  - (c) keep a record of every inspection conducted under paragraph (b).
- (3) The supervisor designated under subsection (1) must not undertake or be assigned activities which interfere with performance of the supervisor's duties under subsection (2).

[Enacted by B.C. Reg. 20/2008, effective May 1, 2008.]

#### *26.23 Procedures for falling and bucking*

- (1) In this section and in section 26.24, "**brushing**" means the striking of a standing tree by a tree being felled if the strike is a direct blow or a glancing blow of sufficient force to cause one or more branches to break at or near the stem of the standing tree.
- (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:
  - (a) establishing minimum and maximum distances between fallers and other workers;
  - (b) planning and constructing escape routes;
  - (c) controlling the fall of trees;
  - (d) minimizing unnecessary brushing;
  - (e) dealing with dangerous trees;
  - (f) bucking trees and logs;
  - (g) using mechanical assistance to fall trees;
  - (h) summoning and rendering assistance to manage a falling difficulty or to deal with an emergency;
  - (i) conducting special or innovative harvesting techniques;

(j) ensuring the well-being of each faller and buckler at least every half hour and at the end of the work shift.

#### *26.24 Responsibility for falling and bucking*

- (1) Subject to section 26.29 (3), before a tree is felled, all workers must be clear of the area within a 2 tree-length radius of the tree.
- (2) Before falling or bucking starts, all obstructions to the activity must be cleared and a safe escape route to a predetermined safe position must be prepared.
- (3) A tree must not be felled if it could strike any stationary or running line of any operational equipment.
- (4) If it is necessary to pack or shovel snow to reduce stump height, the depth of the depression at the base of the tree must not exceed 45 cm (18 in.).
- (5) The falling of a tree must be conducted in accordance with the following procedures:
  - (a) a sufficient undercut must be used;
  - (b) the undercut must be complete and cleaned out;
  - (c) sufficient holding wood must be maintained;
  - (d) the backcut must be higher than the undercut to provide a step on the stump;
  - (e) wedging tools must be immediately available and, unless the tree has a pronounced favourable lean, wedges must be set.
- (5.1) When a tree is being felled, the tree must not brush standing trees if that can be avoided.
- (6) A tree must not be used to cause another partially cut tree to fall in succession unless
  - (a) it is necessary to do so to overcome a specific falling difficulty, and
  - (b) the succession falling is done in accordance with subsection (6.1).
- (6.1) The following apply for the purposes of subsection (6):
  - (a) only one tree may be used to cause another partially cut tree to fall in succession;
  - (b) only those trees necessary to deal with the falling difficulty referred to in subsection (6) are partially cut;
  - (c) a wedge is driven into the backcut of each partially cut tree.
- (7) When a tree starts to fall, the faller and any other worker present must move quickly to a predetermined safe position, at least 3 m (10 ft) away from the base of the tree where possible, and take cover if available.
- (8) All workers must be clear of the hazard area before a tree or log is bucked.

#### *26.25 Dangerous trees and logs*

- (1) Falling or bucking must not be started if
  - (a) a tree or log is in a condition that, if felled or bucked in that condition, the tree or log would pose a reasonably foreseeable risk to a worker, or

(b) it appears that the tree cannot be completely felled or the bucking cut cannot be completed, as the case may be.

(2) If for any reason a partially cut tree cannot be completely felled and must be bypassed or left unattended, then the following apply:

- (a) the tree must be clearly marked;
- (b) work, other than that necessary to complete the falling of the tree, must stop in the hazard area until the tree is felled;
- (c) any worker who could enter the hazard area must be alerted to the hazard;
- (d) the supervisor for that falling activity must be notified.

(3) The supervisor referred to in subsection (2) (d) must ensure that

- (a) all workers at risk are notified, and
- (b) the tree is safely felled before other work is undertaken in the hazard area.

(4) If a bucking cut cannot be completed and the partially bucked log must be bypassed or left unattended, then the following apply:

- (a) if possible, a distinct cross must immediately be cut or marked on the top of each end of the log;
- (b) the supervisor for the bucking activity must be notified at the end of the work day;
- (c) the supervisor for the bucking activity must notify all workers at risk.

(5) Subsections (2) to (4) do not apply if the incomplete falling or bucking is part of a planned process in which safe work practices acceptable to the Board are implemented.

### *26.26 Falling dangerous trees*

(1) Where practicable, dangerous trees must be felled

- (a) progressively with the falling of other timber but before falling adjacent live trees, and
- (b) into open areas.

(2) When falling a dangerous tree,

- (a) dangerous bark must be removed, where practicable,
- (b) stump height must, in the judgment of the faller, allow maximum visibility and freedom of action,
- (c) the tree must be felled in the direction of lean whenever possible, and the undercut must be as deep as necessary to minimize the use of wedges and resulting vibration,
- (d) pushing with a green tree must only be undertaken to overcome a falling difficulty, and
- (e) wedging over must be used only if there is no alternative, and after a careful assessment of the ability of the dangerous tree to withstand wedging.

(3) If conventional methods cannot be safely employed to fall a dangerous tree, blasting or other acceptable methods must be used.

(4) Falling, bucking or limbing activities must not be undertaken in an area made hazardous by a dangerous tree, or a dangerous tree which has been brushed by a felled tree, until the dangerous tree has been felled.

## Appendix 2: Unexpected Events Facilitator Notes

### KEY THEME:

It is important to ask yourself “How do I manage unexpected events?” The purpose of this video is to get you thinking about unexpected events and how you manage them.

### BACKGROUND:

The Unexpected Events Study was done with experienced coastal fallers (7 to 34 years of experience). A total of 1292 falling observations were made during 86 one-hour observation periods. A total of 99 unexpected events were recorded and each faller had at least one unexpected event.

During the study, each faller was asked to look for and vocalize the hazards they saw with each tree to be felled, and rate the risk of falling the tree on a scale of 1 to 3. Then the faller made a plan and the tree was felled. If they did not achieve what they planned they were asked to verbalize what happened and why, and to rank the severity of the unexpected event on a scale of 1 to 3.

Results from the study showed that 6.9% of the time, an unexpected event occurred, and 1.2% of the time, an unexpected event was of a serious nature (safety threat). Fallers participating in this study were coached to be on high alert for hazards (they were asked to state the hazards they observed in each of 4 quadrants around the tree). Notably, fallers on high alert experienced unexpected events. This discovery highlights the extreme importance that fallers must be physically and mentally ready to adapt to changing conditions while working.

### VIDEO NARRATIVE NOTES:

Before falling a tree, ask yourself: “what will I manage for?” Then, after falling the tree, ask yourself: “what didn’t go according to plan?”

Unexpected events happen to anybody and in approximately every 6.9% of trees being felled. This is not contingent on how well trained the faller is.

It is important to focus on acquiring knowledge – this will allow you to consistently adapt to the situation and scenario

Quarter Management plays a key role in dealing with unexpected events – a faller needs to have good plans for their quarter, not just for each tree. Despite having good quarter management, you still cannot predict what will happen every time. You have to accept that in this job, uncertainty exists.

One key tool is to pick up information about the tree as soon as you start cutting into it – depending on how aware you are will influence the amount of information you pick up on.

It’s important to understand that even if you have a perfect plan when you start, you will most likely need to adapt that plan to the changing situation. Understanding that you adapt as you go is important – the faller and supervisors need to work together and figure out how to help a faller adapt.

## UNEXPECTED EVENTS

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Supervisors: get clouding out of your fallers' heads. You need to figure out what the problems are, and help figure out what can we do to make it better. Concentrate on where the solutions may be.

As a take-away, ask "How will you now manage unexpected events?" This is an important question to ask yourself on a continual basis as it will help you to become more aware of what can happen. Continually asking yourself this question will become a habit that will help to shape what happens and hopefully prevent serious, unexpected events.