Regulations, Approved Codes of Practice, Guidelines and Rules

Reason for additional rules

It is the Company policy to have full compliance with the Regulations and Approved Codes of Practice (ACoP). These are our primary sources of safety rules.

Best Practice Guidelines (BPG) contain ‘proven’ method statements, training techniques and hazard controls that shall be followed unless suitable alternatives (offering the same or better outcomes) are in place.

Rules in the Regulations, ACOP and BPG’s are not repeated in this document. Where these lack coverage, the Company’s ‘general safety rules’ and ‘Safe OP’ shall be followed.

Observed breach of an ACoP or general safety rule

Safety rules and best practice guidance, when followed, ensure work is carried out to the highest safety standards preventing harm or death. In view of that, any breach shall require an immediate response, including:

- An investigation taking into account factors leading to the breach.
- Re-education, written warnings, stand-downs and removal.

Disciplinary procedures for breaches of safety rules – (Employees and Contractors)

Primary supervisors (with the support of the HR Manager) shall deal promptly with those in breach of safety rules following correct ‘Employment Law’ processes and the following guidelines:

- First offence (Focus – training and education): – discuss the matter with the offender and issue a written letter of warning.
- Second\(^\text{24}\) offence (Focus – disciplinary): – reinforce the Company’s standards and issue a second written letter of warning. This warning shall advise a stand down of 48-hours, without pay.
- Third offence (Focus – removal): – issue a final written letter of warning advising a stand down of one-month without pay. Those on a final warning shall satisfy Senior Management of their ability to fully comply with safety rules prior to returning to work.

NOTE: Representative safety committees e.g. the Zero Tolerance Scheme (ZTS) and contractors shall conform to this disciplinary procedure.

\(^{22}\) http://forestry.worksafe.govt.nz/guides/safety-and-health-in-forest-operations/

\(^{23}\) http://www.competenz.org.nz/industry/forestry/#section-238

\(^{24}\) A second and/or third offence may be incurred for the same or similar category of breach.

\(^{25}\) Appointed Safety Committees, that have been granted a collective authority to represent PF Olsen employees and contractors shall, in respect of contractor’s employees always address notices and letters of warning to the ‘principal contractor’. The principal contractor shall receive the notice/letter of warning and thereafter ensure that the disciplinary procedure is applied to its employee.
Disciplinary procedures (Visitors and Authorised Persons)

In respect of safety duties and Laws; visitors and authorised persons that enter our managed worksites do so with permission and full trust.

Any breach of the rules may result in the revocation of a permit and could lead to a trespass from the Company’s managed forests.

A note on the so-called ‘10 critical rules’

In previous versions of this management system, safety rules were divided into two sections; the first containing the ‘10 critical rules’ and the second containing other ‘general safety rules’.

PF Olsen considers that all safety rules are critical to safety excellence and has therefore removed this distinction.

Structure

Headings may be explained with a brief definition/description and then followed by rules that relate to the topic.

References may be made to a section in the ACoP, relevant BPG, PF Olsen document, form (through a hyperlink), or web page.

The acronym ‘GSR’ used in this section means a ‘General Safety Rule’.

When a detailed series of GSR and instructions on one subject is required – PF Olsen has a documented procedure called a ‘Safe OP’.

General Safety Rules (GSR)

*Active Operation

An ‘Active Operation’ means a workplace where hazardous activities are in progress, including – by way of example (but not limited to):

- All forms of tree felling.
- Tree extraction including the breaking-out process.
- Machines that are working or under maintenance.
- Log processing – including log sort and stack, quality control (QC), stock-take, and log auditing.
- Silviculture including aerial chemical spraying and pest control.
- Log transport including log loading.
- Road engineering and maintenance.

The term may also apply more generally to a forest that is open for work.
Incident reporting

- Record incidents and notifiable events to WorkSafe NZ – ASAP.
- All serious harm incidents shall also be reported to the PF Olsen supervisor immediately (verbally) and followed up with a written investigation report within 5 work-days – see this manual, section 9.
- All other incidents e.g. minor first aid, near hits etc. shall be reported to PF Olsen within 3 work-days of occurrence.

First aid

See ACoP p. 20.

- First aid kits are to be stocked per the Worksafe NZ ‘First Aid for Workplaces; A Good Practice Guide’ – e.g. see table below:

- A ‘current first aid certificate’ (training) shall cover:
  - For office based employees e.g. ‘first aiders’ for emergencies; unit standards 6401 and 6402 (or the equivalent content).
  - For all operational employees, contractors and service providers; unit standards 6400, 6401 and 6402 (or the equivalent content).

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individually wrapped moist wipes or saline solution</td>
<td>2</td>
</tr>
<tr>
<td>Individually wrapped sterile adhesive dressings</td>
<td>2</td>
</tr>
<tr>
<td>Sterile eye pads (individually wrapped)</td>
<td>2</td>
</tr>
<tr>
<td>Individually wrapped sterile ‘triangular’ bandages</td>
<td>2</td>
</tr>
<tr>
<td>Clasps or safety pins</td>
<td>2</td>
</tr>
<tr>
<td>Individually wrapped roller (stretch) bandages, (50mm)</td>
<td>2</td>
</tr>
<tr>
<td>Sterile wound dressing (2 – 18 cm², 6 – 12 cm²)</td>
<td>8</td>
</tr>
<tr>
<td>Large disposable gloves</td>
<td>2 pair</td>
</tr>
<tr>
<td>Resuscitation mask</td>
<td>1</td>
</tr>
<tr>
<td>Adhesive wound dressing (100mm packets)</td>
<td>1</td>
</tr>
<tr>
<td>Waterproof adhesive plaster (50mm wide, red)</td>
<td>1</td>
</tr>
<tr>
<td>Non-adhesive sterile pads (100mm x 100mm pads)</td>
<td>5</td>
</tr>
<tr>
<td>30ml Sodium Chloride capsules for irrigation</td>
<td>8</td>
</tr>
<tr>
<td>Antiseptic liquid (125ml)</td>
<td>2</td>
</tr>
<tr>
<td>Scissors (stainless steel)</td>
<td>1 pair</td>
</tr>
<tr>
<td>Splinter forceps, fine point (stainless steel)</td>
<td>1 pair</td>
</tr>
<tr>
<td>Incident register (incl. pen or pencil) – usage inventory</td>
<td>1</td>
</tr>
<tr>
<td>Hepatitis B/AIDS caution notice (on first aid kit)</td>
<td>1</td>
</tr>
<tr>
<td>Emergency numbers and contact list</td>
<td>1</td>
</tr>
</tbody>
</table>
### Vehicles and driving

See **ACoP, Section 2.10 – 2.11**:

- Drivers of forest going vehicles shall hold full licenses and be able to demonstrate the competency requirements for driving on forest roads.
- Drivers with learners/restricted licenses shall not operate a vehicle in the forest unless under the supervision of a full license holder.
- Driving on un-metalled tracks requires PF Olsen approval.
- Vehicle RT shall not be used as a substitute for safe driving practices.
- All vehicles must face an exit route when parked and shall not impede access. They shall be maintained in a state of emergency readiness i.e. with keys in ignition and sufficient fuel.
- Forest driving speeds shall be reduced to:

<table>
<thead>
<tr>
<th>Speed Limit</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;70 kph</td>
<td>when on unsealed secondary roads &gt; 6m in width</td>
</tr>
<tr>
<td>&lt;50 kph</td>
<td>when on single carriage/lane roads &lt; 6m in width</td>
</tr>
<tr>
<td>&lt;30 kph</td>
<td>for travel through an active operation</td>
</tr>
</tbody>
</table>

### Mobile phone use in vehicles

Drivers of vehicles shall obey the ‘Land Transport (Road User) Amendment Rule 2009’; in particular, s7.3a which states that it is illegal for drivers to ‘create, send, or read messages under any circumstances, or use a mobile phone to make, receive or end a call when driving unless:

- The driver does not have to hold or manipulate the phone to do so (completely voice activated mobile phone), or
- The mobile phone is securely mounted to the vehicle and the driver manipulates the phone infrequently and briefly, or
- There is a genuine emergency event (111, *555 call) and it is unsafe or impracticable for the driver to stop and park.

### Quad bikes (formerly known as ATV and ATUV)

See **ACoP, Section 6.7 and Guidelines for the safe use of quad bikes**

- Quad bike operators shall:
  - Hold the relevant (or equivalent) NZQA unit standards.
  - Follow the manufacturer's recommendations for maintenance and towing, attachments and carrying loads.
  - Ride with both hands on the handle bars, both feet on the foot pegs and only on formed roads and tracks.
  - Stop the Quad and get off it, before performing any other task.
Visitors

See ACoP, Section 2.7:

- All Visitors, including forest land owners and service providers that require entry to a forest shall first complete a visitor safety induction and, thereafter, hold a current forest entry permit.

- The visitor safety induction shall include information on:
  - Hazards; commonly found when entering a forest.
  - PPE and Fire Authority requirements in a forest work place.
  - Safe driving practice in a forest environment.
  - Emergency and communication procedures.

- The visitor safety induction ‘acknowledgement form’ shall be signed.

General Safety Rules and Guidance:

- **Service Providers** to Contractors e.g. mechanics, shall receive permission to enter an active operation. Contractor’s that approve such an attendance shall ensure the service provider:
  - Has a safety system including safe work procedures including by monitoring e.g. conducting a SBO on the mechanic.
  - Has the PPE/Fire Suppression equipment they require (or is provided with it) and that such equipment is in use.
  - Is supervised at all times, while in the active operation.
  - Is provided instruction on ‘site specific hazards and risks’ and safe zones – according to work site changes; daily if necessary.
  - Has signed the Contractor’s induction acknowledgment form;

  **NOTE:** See Safe OP – Using Radio Transmitters (RT)

- **All other Visitors** shall provide 48-hours written notice to PF Olsen that they intend to visit. Such notice shall include the date, time, forest and duration of the proposed visit.

Final entry approval (and conditions) will be dependent on the following two scenarios:

- **Active operation** (where work is taking place): PF Olsen will consult with its contractors to ensure a visit can be made safely and, thereafter, provide final approval for the visit.

  **NOTE:** If an active operation is deemed safe to visit, visitors shall be: Briefed on ‘site specific hazards’ and safe zones, provided with any PPE they require, and accompanied by a PF Olsen representative at all times.

- **Inactive operation** (where no work is taking place): PF Olsen will approve the visit and advise the visitor of any forest specific hazards. The visitor may enter unaccompanied.
See ACoP, Section 3: It is the duty of a PCBU to provide PPE, ensure it remains in good condition and that it is used by its workers. For the avoidance of any confusion – the rules below apply to all persons entering/working in a forest.

- High Visibility (Hi-Vis) clothing (compliance after 1 November 2015):
  - Hi-Vis clothing shall display AS/NZS 4602 or NZFOA labelling and be, in all cases D/N (day/night) i.e. having 24-hour visibility.
  - Hi-Vis clothing shall be checked regularly (a minimum daily) and replaced immediately when non-compliant.
  - NB: A swatch (or chart) may be used to gauge compliance.
  - Silviculture workers and visitors shall wear Hi-Vis vests.

- Leg protection e.g. chaps when using chainsaws:
  - Chainsaw cut-resistant legwear (chaps) shall have the purchase date recorded either on the garment or in the PPE register and replaced after six months or when worn-out or holed.26
  - Damaged chaps shall be immediately taken out of service and may only be repaired by an authorised repair person.

- Safety Footwear:
  - Spiked boots shall not be worn while operating machinery or while working on metal ladders (metal on metal).
  - Chainsaw operators shall wear Class/Level 3 (or higher rating) leather or rubber boots.
  - Chainsaw cut resistant boots shall be replaced when cut or holed.

- Safety Helmets:
  - Beanies or any headwear that limits the usefulness of hearing protection, shall not to be worn underneath safety helmets.

- Eye protection:
  - Eye protection shall be worn when there is the potential for harm e.g. (but not limited to) welding, sawing during pruning, plotting, in dusty/windy conditions, working as a poleman, around helicopters and performing maintenance.

Continued on next page...

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26 The BPG PPE (page 5) notes, “Getting oil on your protective legwear is common” and “if too much soaks into the protective layers, they bind together.” It recommends: “That leg protection is replaced after 6 months’ continuous (daily) use or after a total of 0.5 litre (one chainsaw tank) of oil has been spilt on to them.”
27 Holes, of which there shall be a maximum of two; ≤10cm apart shall be no larger than a NZ$ .10 cent piece.
28 Skellerup Industries produce a Level 4 rubber chainsaw cut-resistant boot. There are a number of Class 3 leather boots available in both spiked and un-spiked configurations. NB: Do not wear rubber boots at a fire.
29 Products meeting EN 397:2012 and EN 12492 embody AS/NZ 1801 and are suitable for use in New Zealand.
...continued

- Gloves:
  – Gloves shall comply with EN 388:1994 (or similar) standard.

- Hearing protection:
  – All workers shall wear Grade 5 hearing protection when within 30m of an operating chainsaw or machine emitting > 95dBA.
  – Machine operators, in respect of machine noise, shall wear the following classes of hearing protection:
    | Grade | for (avg) noise tested |
    |-------|------------------------|
    | 1     | between 80 – 85dBA     |
    | 2     | between 86 – 95dBA     |
    | 5     | in excess of 96dBA     |

**NOTE:** Operating machine, cabin noise, shall be tested annually.

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**Safety at fires**

See ACoP, Section 7:

- The minimum standards of dress on a fire line for Fire-fighters shall conform to the NFRA standards and no polypropylene shall be worn.

- ‘Fire-season’ – individual and crew equipment:
  – Silviculture crew (including tree thinning) – one shovel per person and two full knapsack pumps (20 litres) held on site.
  – Harvesting crew – one shovel per person, two full knapsacks pumps (20 litres), and 200 litres of water held close to the active work area.
  – When requested by the duty fire officer, each tree feller shall have (held with fuel containers) one short handled shovel.

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**Fire-season and fire prevention**

See ACoP, Section 7: *(Obey Fire Authority requirements at all times)*.

- Vehicles shall be parked on clear ground and not blocking exits.
- A battery-isolating ‘cut-out’ shall be fitted in all heavy machinery.
- Firebreaks and permanent access tracks including to installations (power poles, towers etc.) shall be kept clear of all slash and debris.
- No fires shall be lit in any active operation at any time of the year.
- Working hours may be restricted by PF Olsen due to fire danger.
- Fire patrol will be carried out half an hour after work has ceased as instructed by the duty fire officer.
Fire extinguishers

Fire requirements (365 days)

The following represent the minimum requirements and are listed by operation, machine and/or equipment type:

- Chainsaw operators felling trees – one, 340 grams dry powder.
- Light vehicles – one, 1 kg dry powder.
- Heavy trucks – one, 2 kg dry powder.

All other machines – one, 9 litres pressurised foam (or water); and one, 2 kg dry powder.

**NOTE:** A permanent automatic fire suppression system is the preferred extinguisher discharge mechanism.

- The following table matches fuel and extinguisher classes (type):

<table>
<thead>
<tr>
<th>Class</th>
<th>Materials</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>e.g. wood, paper</td>
<td>water, dry powder types</td>
</tr>
<tr>
<td>B</td>
<td>Flammable liquids e.g. petrol</td>
<td>dry powder, CO2, foam, light water types.</td>
</tr>
<tr>
<td>C</td>
<td>Gases e.g. acetylene, LPG</td>
<td>any of the types listed above.</td>
</tr>
</tbody>
</table>

**NB:** Turn the gas off at source

- Extinguishers shall be checked after use and during monthly and annual inspections. They shall display the dates of annual inspections and/or recharges.

- All motorbikes, ATV, chainsaws and heavy machinery, except those with turbo chargers, are to be fitted with an approved spark arrestor, or a designated spark-arresting muffler.

See also – Form of Contract, Schedule 1 Fire, Security and Protection.

**NOTE:** The ACoP, Section 9.5 Emergency Response has additional and specific ‘fire extinguisher’ requirements in respect of Hazardous Substances such as stored fuels.

Welding

- Welding shall be carried out with a permit obtained from PF Olsen and all permit conditions shall be adhered to; including:
  - Welding shall only be undertaken above bare soil.
  - One shovel and one 2 kg dry powder fire extinguisher shall be on-site within 5 meters of the welding.
  - The welder shall monitor the site for a minimum of 30 minutes after welding has been completed.
  - Welders shall wear flame/melt resistant clothing and other required PPE.
### Smoking
- Smoking may be permitted on firebreaks, areas cleared to bare ground, huts and vehicles (subject to a smoke-free agreement).
  - Drivers shall not smoke while driving a vehicle in the forest.
- Cigarettes and matches shall not be thrown from vehicle windows.

### Firearms
- Firearms shall not be carried or discharged in any forest during working hours, unless authorised by PF Olsen.

### Chainsaws
See ACoP, Section 4.2:
- Chainsaws shall not be:
  - Drop started – a ‘warm start’ is permissible.
  - Covered with combustible materials unless fully cooled down.
  - Operated if in any way malfunctioning.

### Helicopter operations
See ACoP, Section 15 (on Helicopter Logging):
- Passengers are prohibited when aircraft are carrying materials in a sling or net.
- Dogs are not permitted in the pilot compartment of an aircraft and shall be properly restrained when in the passenger compartment.

### Communications – tree fellers including waste thinning
See ACoP, Section 10.5.1, 11.7:
- Supervisors of waste thinning operations shall monitor that the system of work does not isolate workers from each other.
- In the event workers do become isolated – the ‘working alone’ system of rules (GSR) shall apply.
- In all cases, a thinning crew ‘buddy system’ shall be established and documented so that a ‘person shall be available’ to each tree feller.
- Tree feller ‘call-in’ (usually by RT) is a radio check conducted at least every 30 minutes between a feller and the person available to receive, record and respond to transmissions.
Ladders and ladder pruning

See ACoP, Section 10.4:

- When a pruner’s feet are between 3.01 and 4.49 metres above the ground, a pruner may choose not to use a fall restraint providing that pruner holds:
  - NZQA Unit 1245 “Prune plantation trees from off the ground” for manual ladder pruning, or
  - NZQA Unit 6972 “Prune plantation trees with a chainsaw from off the ground” for ladder pruning using a chainsaw.
- When the pruner’s feet are 4.5 metres or more above the ground, the fall restraint device shall be attached to the tree immediately upon reaching the work position.

Mechanised Processors Chain Shot

See ACoP, Section 6.3:

Machines used for mechanical felling and/or processing shall have in place a ‘chain shot prevention’ and ‘chain maintenance’ plan, including:

- Install 19mm polycarbonate/acrylic as front screen protection. This minimum thickness applies to processors and felling machines.
- Install, inspect and maintain a purpose built chain shot deflector.
- Establish a chain-shot exclusion zones:
  - Log processing areas (skids): use a marker system e.g. cones.
  - In forest felling and de-limbing areas: draw a plan of the exclusion zone and prohibit entry. Use signage.
  - Induct all workers/visitors into the ‘chain shot management processes’.

The diagram details a ‘cone-shape’ danger zone. This zone changes as the head is repositioned. A minimum 70m exclusion zone is required for unprotected workers unless effective protective barriers are used.

Reference material:

Waratah – ‘Chain Shot Awareness and Management’

- Preventative maintenance reduces the likelihood of chain breakage.
- Correct machine settings – use high-speed chain and inspect daily. Maintain chain speeds and bar pressures at factory settings.
Mobile Plant including specialised plant.

See ACoP, Section 6:

- Mobile Plant shall be operated in accord with the manufacturer’s recommended and safe forest driving speeds.
- Transporters, and other ‘over-dimension’ vehicles shall be piloted into the forest unless the distance travelled (from the forest gate) is less than 500 meters and it is daylight.
- Operators shall maintain 3 points of contact when climbing into or out of the machine. (see Operating Hazards, BPG Mobile Plant p. 31)
- Any ‘non-purpose-built’ machine or vehicle e.g. a Moxy used outside its original design intention (to cart logs) shall be classed as forestry ‘mobile plant’. A registered engineer, having a working knowledge of forestry plant shall be retained to:
  - Determine the safe working payload of the plant.
  - Calculate the degree of slope that the plant may work on and advise as to fitness, and suitability of application.
  - Certify the machine as fit for purpose (structure/condition).
  - Specify the maintenance requirements (regime/routine).

Quarry Management in Forestry Operations

The Mining and Quarrying Operations Regulations 2013 require that a quarry operator “appoint a person to manage the quarrying operation and supervise the health and safety aspects of the quarrying operation on every day on which a quarry worker is at work” – see s14.

If you are extracting or processing rock or gravel from a forest to build or maintain infrastructure (or sell for gain or reward) you need to:

- Appoint an ‘A or B grade’ quarry manager.
- Advise Worksafe NZ of your quarry operations after 1 July 2015.
- Jointly (operator and manager) prepare a Principal Hazard Management Plan (PHMP) for the quarrying operation.
- Have the PHMP established and functional by 1 January 2016.

For issues or queries phone WorkSafe on 0800 030 040, or email the High Hazards Unit hhu.extractives@worksafe.govt.nz

See also:  \[pfo\common$\BC\Health&Safety\Legislation\Quarry Management Regulation Change.pdf

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30 In a forestry context, if the material has to be processed e.g. screened or crushed or is moved from A to B by a truck then the source is a quarry. Rock arising’s won from road construction activity and pushed around with an excavator or bulldozer would not be a quarry. See – [http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/position-statements/documents/mining-quarrying-in-forestry.pdf](http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/position-statements/documents/mining-quarrying-in-forestry.pdf)
### Haulers including tower certification

See **ACoP, Section 14:**

- Topped trees together with guy ropes may be used in conjunction with hauler rigging if specified in a harvesting plan or by PF Olsen.
- Haulers including poles, swing-yarders, tong-throwing excavators, harvest line excavators, and independent spar-yarders etc. shall be:
  - Certified as inspected three years from new, then annually.
  - Stood down and not operated with an expired tower certificate.
- Hauler operators (owners) shall maintain a log book that details:
  - Remedial actions taken in order to achieve tower certification.
  - Any repairs, maintenance and modifications undertaken on the hauler and any instance of tower collapse.
- All shackles shall be replaced if faulty and, at a minimum, every two years to coincide with the tower inspection date.
- Tension monitors shall be fitted to all hauler extraction machines.

### Fuel, explosives and chemicals

See **ACoP, Section 9, 3.10 – 3.11:**

- Smoking is not permitted when handling fuels.
- Chainsaw refuelling shall be completed in the designated safe zone.
- Turn off plant and equipment before refuelling it.
- Where fuel tanker trailers (full of fuel or not) are primarily stationed within the forest the coupling shall be inspected prior to any movement of the trailer onto a formed forestry or public roadway.
- Explosives shall not be used or stored in any PF Olsen workplace without the express consent of the Company.
- Those working with fuel/chemicals shall have potable water (20 litres per person/day) made available for hygiene and first aid.

**NOTE:** Wash your hands before eating, drinking or using the toilet.

### Poleman

See **ACoP, Section 14.9** Poleman shall:

- Have constant communication with the hauler operator.
  
  **NB:** The preferred system is the use of a two way Radio Transmitter, however, the use of a talkie tooter or line-of-sight combined with signals (or a combination of both) would be acceptable.
- Approach hooked-up stems from the front of the drag.
- Not work/stand on (or under) any elevated (or unsupported) stem.
- Request machine assistance when the stems may move.
Basic Training – Safety and General Requirements

All operational employees and contractors shall hold unit standard 17769 (General Requirements – DKO general health, safety, and environmental requirements in forestry). The target achievement period is within two months of commencing employment.

NB: Visitors to forest operations and service providers are required to hold basic safety training standards e.g. unit 17769 – see Inductions.

School age Employees

See ACoP, Section 2.3.6: The Education Act 1989, part 3 states:

- ‘Every person is required to be enrolled at a registered school at all times ... beginning on the person's 6th birthday and ending on the person's 16th birthday.’ ‘Employers, complying with this legislation, shall ensure that any person(s) between the age of 15 and 16, in their workplace, have a school leaver’s certificate’ (exemption).

Skid work

See ACoP, Section 13, 6.2.11:

- Processing area work-stations shall be organised and spaced so that the actions of one worker will not create a hazard for another. Organization shall include a ‘skid lay-out diagram’ showing:
  - Where men and machines can work in relation to each other and where the various tasks will be performed.
  - Log stack locations, processing decks and QC areas, safe areas for workers/visitors, truck loading and turn-a-round areas.

  NOTE: Use a separation distance of 20 meters when working with logs and use 1 x the mean tree-length (butt to break) when machines are working with full length stems.

- Machine operators shall not operate a machine in reverse without first checking that their path is clear of all other workers.
- Skid workers shall not work with backs to an operating machine.
- Sufficient space (an average .5 metres) shall be provided between stems for walking access, accurate log making and safe processing.
- Skidworkers shall stand on solid ground when processing logs.

Communication

- A radio transmitter (RT) shall be available to all operational employees along with the correct procedure for operating it. Workers wearing earmuffs shall have a ‘wired in’ earmuff speaker.
Guidelines for ceasing work in trees in high winds

- This guideline, based on the Beaufort Scale, is connected to the following safe systems of work – e.g.:
  - Safe and Productive Felling, see Adverse events.
  - Working Near Live Power Lines – see: Caution during planning.
- The table below shall be displayed at all forest work sites. All persons, including Visitors to forests, shall comply with its content.

### Guidelines for Ceasing Work in Trees in High Winds

<table>
<thead>
<tr>
<th>RESPONSE</th>
<th>Beaufort Wind Force (scale)</th>
<th>Wind Category (term)</th>
<th>10m Wind Speed (km/h)</th>
<th>Observed Wind Effects (things that can be seen in the environment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Calm</td>
<td>&lt; 1</td>
<td>No wind; and smoke would rise vertically</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Light Air</td>
<td>1 to 5</td>
<td>Wind direction can be determined.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Light Breeze</td>
<td>6 to 11</td>
<td>Wind felt on the face. Leaves rustle.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Gentle Breeze</td>
<td>12 to 19</td>
<td>Leaves and small twigs in constant motion. Wind extends a light flag.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Moderate Breeze</td>
<td>20 to 28</td>
<td>Dust raised from the ground. Paper blown about. Small branches are moving.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Fresh Breeze</td>
<td>29 to 38</td>
<td>Small trees begin to sway.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Strong Breeze</td>
<td>39 to 49</td>
<td>Large branches are moving. Whistling heard in wires/ropes. Signs are hard to put up and blow over.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Constant Breeze</td>
<td>50 to 61</td>
<td>Whole trees (the trunk of larger trees) are moving. The wind is making walking more difficult.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Fresh Gale</td>
<td>62 to 74</td>
<td>Twigs are falling from the trees. The wind hinders progress when walking.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Strong Gale</td>
<td>75 to 88</td>
<td>Large branches may break from trees. Structural damage occurs (if not tied down will blow away).</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Whole Gale</td>
<td>89 to 102</td>
<td>Very rarely experienced. Trees uprooted (wind throw). Considerable damage occurs.</td>
<td></td>
</tr>
</tbody>
</table>

### Decision Support Tool (Based on Beaufort Wind Scale)

- 0 - 4 In most situations, wind will not pose a hazard to forestry operations, including tree felling.
- 5 If felling in small trees (waste thinning) - felling shall cease. In all cases, review the work against the conditions and risks and if necessary move to an alternative location or task.
- 6 All tree felling (including for clearfell harvesting) shall cease. Move to an alternative task which shall be a minimum of two tree lengths from standing trees.
- 7 Cease all forestry work - seek shelter which shall be a minimum of two tree lengths from standing trees and do not resume until wind speed reduces to category 6 or less.
- 8 - 10 Do not enter the forest in gale conditions. If gale conditions are forecast and start to develop, exit the forest and do not re-enter until wind speed reduces to category 6 or less.