

## Appendix A: Safety Procedures for Logging Operations

Listed below are a selected number of safety procedures produced by the United States Department of Labor, Occupational Safety and Health Administration (OSHA). The safety procedures are from Standard 1910.266 for Logging Operations. A complete listing can be found on the following OSHA web site: ([www.osha.gov/SLTC/logging\\_advisor/standards/standards.html](http://www.osha.gov/SLTC/logging_advisor/standards/standards.html)).

### Overhead electric lines — 1910.266(d)(8)

- (i) Logging operations near overhead electric lines shall be done in accordance with the requirements of 29 CFR 1910.333(c)(3).
- (ii) The employer shall notify the power company immediately if a felled tree makes contact with any power line. Each employee shall remain clear of the area until the power company advises that there are no electrical hazards.

### Chain saws — 1910.266(e)(2)

- (i) Each chain saw placed into initial service after the effective date of this section shall be equipped with a chain brake and shall otherwise meet the requirements of the ANSI B175.1-1991 “Safety Requirements for Gasoline-Powered Chain Saws”, which is incorporated by reference as specified in Sec. 1910.6. Each chain saw placed into service before the effective date of this section shall be equipped with a protective device that minimizes chain-saw kickback. No chain-saw kickback device shall be removed or otherwise disabled.
- (ii) Each gasoline-powered chain saw shall be equipped with a continuous pressure throttle control system which will stop the chain when pressure on the throttle is released.
- (iii) The chain saw shall be operated and adjusted in accordance with the manufacturer’s instructions.
- (iv) The chain saw shall be fueled at least 10 feet (3 m) from any open flame or other source of ignition.
- (v) The chain saw shall be started at least 10 feet (3 m) from the fueling area.
- (vi) The chain saw shall be started on the ground or where otherwise firmly supported. Drop starting a chain saw is prohibited.
- (vii) The chain saw shall be started with the chain brake engaged.



**(viii)** The chain saw shall be held with the thumbs and fingers of both hands encircling the handles during operation unless the employer demonstrates that a greater hazard is posed by keeping both hands on the chain saw in that particular situation.

**(ix)** The chain-saw operator shall be certain of footing before starting to cut. The chain saw shall not be used in a position or at a distance that could cause the operator to become off-balance, to have insecure footing, or to relinquish a firm grip on the saw.

**(x)** Prior to felling any tree, the chain-saw operator shall clear away brush or other potential obstacles which might interfere with cutting the tree or using the retreat path.

**(xi)** The chain saw shall not be used to cut directly overhead.

**(xii)** The chain saw shall be carried in a manner that will prevent operator contact with the cutting chain and muffler.

**(xiii)** The chain saw shall be shut off or the throttle released before the feller starts his retreat.

**(xiv)** The chain saw shall be shut down or the chain brake shall be engaged whenever a saw is carried further than 50 feet (15.2 m). The chain saw shall be shut down or the chain brake shall be engaged when a saw is carried less than 50 feet if conditions such as, but not limited to, the terrain, underbrush and slippery surfaces, may create a hazard for an employee.

- Protective chaps
- Hardhats
- Eye and face protection
- Hearing protection
- Gloves



### **Tree harvesting — 1910.266(h)(1)**

**(i)** Trees shall not be felled in a manner that may create a hazard for an employee, such as but not limited to, striking a rope, cable, power line, or machine.

**(ii)** The immediate supervisor shall be consulted when unfamiliar or unusually hazardous conditions necessitate the supervisor's approval before cutting is commenced.

**(iii)** While manual felling is in progress, no yarding machine shall be operated within two tree lengths of trees being manually felled. Exception: This provision does not apply to yarding machines performing tree pulling operations.

**(iv)** No employee shall approach a feller closer than two tree lengths of trees being felled until the feller has acknowledged that it is safe to do so, unless the employer demonstrates that a team of employees is necessary to manually fell a particular tree.

**(v)** No employee shall approach a mechanical felling operation closer than two tree lengths of the trees being felled until the machine operator has acknowledged that it is safe to do so.

**(vi)** Each danger tree shall be felled, removed or avoided. Each danger tree, including lodged trees and snags, shall be felled or removed using mechanical or other techniques that minimize employee exposure before work is commenced in the area of the danger tree. If the danger tree is not felled or removed, it shall be marked and no work shall be conducted within two tree lengths of the danger tree unless the employer demonstrates that a shorter distance will not create a hazard for an employee.

**(vii)** Each danger tree shall be carefully checked for signs of loose bark, broken branches and limbs or other damage before they are felled or removed. Accessible loose bark and other damage that may create a hazard for an employee shall be removed or held in place before felling or removing the tree.

**(viii)** Felling on any slope where rolling or sliding of trees or logs is reasonably foreseeable shall be done uphill from, or on the same level as, previously felled trees.

### **Manual felling — 1910.266(h)(2)**

**(i)** Before felling is started, the feller shall plan and clear a retreat path. The retreat path shall extend diagonally away from the expected felling line unless the employer demonstrates that such a retreat path poses a greater hazard than an alternate path. Once the backcut has been made the feller shall immediately move a safe distance away from the tree on the retreat path.

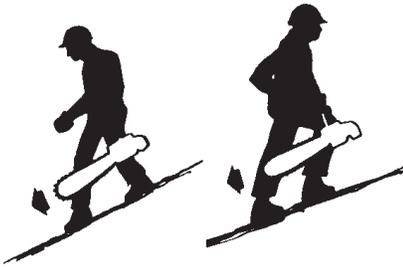
**(ii)** Before each tree is felled, conditions such as, but not limited to, snow and ice accumulation, the wind, the lean of tree, dead limbs, and the location of other trees, shall be evaluated by the feller and precautions taken so a hazard is not created for an employee.

**(iii)** Each tree shall be checked for accumulations of snow and ice. Accumulations of snow and ice that may create a hazard for an employee shall be removed before felling is commenced in the area or the area shall be avoided.

(iv) When a spring pole or other tree under stress is cut, no employee other than the feller shall be closer than two trees lengths when the stress is released.

(v) An undercut shall be made in each tree being felled unless the employer demonstrates that felling the particular tree without an undercut will not create a hazard for an employee. The undercut shall be of a size so the tree will not split and will fall in the intended direction.

(vi) A backcut shall be made in each tree being felled. The backcut shall leave sufficient hinge wood to hold the tree to the stump during most of its fall so that the hinge is able to guide the tree's fall in the intended direction.



(vii) The backcut shall be above the level of the horizontal facecut in order to provide an adequate platform to prevent kickback. Exception: The backcut may be at or below the horizontal facecut in tree pulling operations.

**Note to paragraph (vii):** This requirement does not apply to open face felling where two angled facecuts rather than a horizontal facecut are used.

### **Limbing and bucking — 1910.266(h)(3)**

(i) Limbing and bucking on any slope where rolling or sliding of trees or logs is reasonably foreseeable shall be done on the uphill side of each tree or log.

(ii) Before bucking or limbing wind-thrown trees, precautions shall be taken to prevent the root wad, butt or logs from striking an employee. These precautions include, but are not limited to, chocking or moving the tree to a stable position.

### **Loading and unloading — 1910.266(h)(6)**

(i) The transport vehicle shall be positioned to provide working clearance between the vehicle and the deck.

(ii) Only the loading or unloading machine operator and other personnel the employer demonstrates are essential shall be in the loading or unloading work area during this operation.

(iii) No transport vehicle operator shall remain in the cab during loading and unloading if the logs are carried or moved over the truck cab, unless the employer demonstrates that it is necessary for the operator to do so. Where the transport vehicle operator remains in the cab, the employer shall provide operator protection, such as but not limited to, reinforcement of the cab.

(iv) Each log shall be placed on a transport vehicle in an orderly manner and tightly secured.

(v) The load shall be positioned to prevent slippage or loss during handling and transport.

(vi) Each stake and chock which is used to trip loads shall be so constructed that the tripping mechanism is activated on the side opposite the release of the load.

(vii) Each tie down shall be left in place over the peak log to secure all logs until the unloading lines or other protection the employer demonstrates is equivalent has been put in place. A stake of sufficient strength to withstand the forces of shifting or moving logs, shall be considered equivalent protection provided that the logs are not loaded higher than the stake.

(viii) Each tie down shall be released only from the side on which the unloading machine operates, except as follows:

(viii)(A) When the tie down is released by a remote control device; and

(viii)(B) When the employee making the release is protected by racks, stanchions or other protection the employer demonstrates is capable of withstanding the force of the logs.

#### **Transport — 1910.266(h)(7)**

(i) The transport vehicle operator shall assure that each tie down is tight before transporting the load. While enroute, the operator shall check and tighten the tie downs whenever there is reason to believe that the tie downs have loosened or the load has shifted.

#### **Storage — 1910.266(h)(8)**

(i) Each deck shall be constructed and located so it is stable and provides each employee with enough room to safely move and work in the area.

For additional information on chainsaw safety procedures and log loading and unloading safety procedures, contact:

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