

# Oregon OSHA Changes

## Division 7, Forest Activities

### AO 2-2005, filed 5/27/05, effective 6/1/05

#### 437-007-0004 Applicability of Rules.

The rules in Division 7 establish occupational safety and health practices for all forest activity operations including but not limited to:

Chemical application

Chipping

Clearing and slash disposal

~~[Fire fighting ]~~

Forest road construction, maintenance and decommissioning

Log dumps, ponds, plantsite log yards and independent sort yards

Log hauling

Marking

#### **Prescribed fire**

Pulpwood and non-pulpwood logging

Reforestation/vegetation management

Stream restoration

Timber cutting and thinning operations

Timber cruising

#### **Tree climbing activities**

#### **Wildland fire suppression**

Any situation or condition not specifically addressed will be subject to other applicable provisions of the Oregon Administrative Rules, Chapter 437, Oregon Occupational Safety and Health Standards.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

#### 437-007-0025 Definitions

A-frame – A structure made of two independent columns fastened together at the top and separated by a reasonable width at the bottom to stabilize the unit from tipping sideways.

Alternative communication system – A system by voice, hand or media other than horn or whistle which provides a safe and reliable method of communication between crew members.

Approved container – A metal or polyethylene (plastic) container that can be used to carry flammable liquids in quantities up to 5 gallons. These containers must be accepted as satisfactory to contain flammable liquids by a nationally recognized testing lab, such as Underwriters Lab (UL) or Factory Mutual (FM).

**Aramid - The generic name for a high-strength, flame-resistant synthetic fabric used in the shirts and jeans of firefighters. Nomex, a brand name for aramid fabric, is the term commonly used by firefighters.**

Arch – Any device attached to the back of a mobile vehicle and used for raising one end of logs to facilitate movement.

Authorized person – See “Designated Person.”

Backcut (falling cut) – The cut opposite of the face cut.

Ballistic nylon – A nylon fabric of high tensile properties designed to provide protection from lacerations.

Base of tree – That portion of a tree that is not more than 12 inches above highest ground level.

Bight of the line – A hazardous zone created by one or more lines under tension, or a point on a line where a rigging chain is attached.

Binder – A hinged lever assembly for connecting the ends of a wrapper to tighten the load restraining devices (log trucks, flatbeds, lowboys, etc.).

Brow log – A log placed parallel to any roadway at a landing or dump to protect carriers while loading or unloading.

Buck – To cut a fallen tree into logs.

Butt – The bottom cut or the first log of a fallen tree.

Cable yarding – The movement of trees or logs from the area where they have been fallen to a landing by attaching them to a cable system that is supported by a metal tower (wood spar) and/or intermediate support or tail trees.

Chock – A block, often wedge-shaped, which is used to prevent movement; for example, a log from rolling, a wheel from turning.

Choker – Length of wire rope, chain or synthetic material with attachments for encircling a log to be yarded.

Competent person – A qualified person who has been authorized by the employer or employer representative to:

(a) Identify existing and predictable hazards in the surroundings or working conditions which are hazardous or dangerous to employees, and

(b) Eliminate the hazard or take corrective action.

**Confine a fire - To restrict the fire within determined boundaries established either prior to the fire or during the fire.**

**Contain a fire - To take suppression action, as needed, which can reasonably be expected to check the fire's spread under prevailing conditions.**

**Control a fire - To complete control line around a fire, and spot fires therefrom and any interior islands to be saved; burn out any unburned area adjacent to the fire side of the control lines; and cool down all hot-spots that are immediate threats to the control line, until the lines can reasonably be expected to hold under foreseeable conditions.**

Cut-up-tree/snag – A tree/snag, left standing, with the falling cuts started or completed.

Cutter – One whose primary job is to manually fall, buck or limb trees.

Danger tree – A standing tree, alive or dead, that presents a hazard to personnel due to deterioration or physical damage to the root system, trunk (stem), or limbs, and the degree and direction of lean.

DBH – Diameter at breast height.

Deadman – Buried log or other object used as an anchor.

Deck – A stack of trees or logs.

Designated person – An individual who has been assigned by the employer or the employer representative to perform a specific duty or duties.

**Direct supervision - Supervision by a competent person who watches over and directs the work of others who are within sight and unassisted natural voice contact.**

**NOTE: Direct supervision may be achieved by radio contact when an untrained runner is enroute to or from an operational area where there may be exposure to wildland fire hazards, provided there is a competent person at both the pick-up and drop-off points.**

Domino falling – The partial cutting of several trees which are left standing and then pushed over with a pusher (driver) tree. This definition of domino falling does not include the falling of:

(a) A single danger tree by falling another single tree into it.

(b) Two or more trees at the same time because their limbs are interlocked.

Double tree intermediate support system – A system for supporting a loaded skyline in a support jack suspended on a single piece of wire rope that is supported by two trees in a manner that provides for sharing the load between the two trees. (See Figure 7-15.)

Dutchman (as used in falling) – A method used to pull a tree against its lean by leaving a section of the undercut on one corner of the face.

Dutchman (as used in yarding) – A block used to change direction of line lead (sideblocking).

Emergency care – Care provided by a person who is first aid and CPR trained.

Emergency medical service – Care provided by a medically trained person such as in a hospital, clinic, ambulance or rescue vehicle.

Emergency scene -The site where the suppression or control of a fire or an emergency exists.

Equipment – See “Vehicle and Machine.”

Equipment protection designations – The listing of specific guarding requirements for specific logging machines.

**Escape route - A planned and understood route firefighters take to move to a safety zone or other low-risk area.**

Experienced person – A person who has sufficient training, experience and skill in a given process to be knowledgeable of all aspects of that process.

Extreme weather conditions – Includes, but not limited to:

(a) Strong winds (applies to timbered areas only) – Wind velocity that reaches sufficient force to blow limbs from standing trees, cause windfalls, or prevent cutters from falling trees in the desired direction;

(b) Impaired vision – Conditions such as falling snow, sleet, mist, fog, rain, dust, or darkness which substantially impairs visibility to the extent that employees cannot clearly see signals, moving vehicles, equipment and lines, falling trees or other hazards;

(c) Hazardous snow or ice conditions – Snow or ice conditions which prevent escape from hazards such as falling trees, moving logs, vehicles, or similar hazards; or  
(d) Lightning.

Fairlead – Sheaves, rolls or a combination thereof arranged for receiving a line coming from any direction to minimize the line from burning and aid proper line spooling onto a drum.

Fall – To cut down trees.

Faller – A person who falls (cuts down) trees.

**Fire camp – A geographical site(s) equipped and staffed to provide sleeping, food, water and sanitary services to fire personnel.**

Fire fighting equipment – All portable and fixed fire suppression and control equipment.

**Fire season – That period during the year when the State Forester declares fire season in any part of the state, as required by ORS 477.505.**

**Fire shelter - A personal protection item carried by firefighters which when deployed unfolds to form a pup-tent shelter of heat reflective materials.**

Firefighter – Any employee whose primary duty is fire suppression and control of fires on or around wildland areas.

Flame resistance – The property of material, or combinations of component materials, to retard ignition and restrict the spread of flame.

FOPS (Falling Object Protective Structure) – Structural members arranged in such a way to reasonably protect operators from falling objects such as trees, rocks, etc.

**Frequent review or inspection - A review or inspection that is conducted at intervals which are necessary (conducted on daily to monthly intervals) to gain a desired assessment of conditions, practices, policies or procedures.**

Grounded (Cutting) – Placement of a tree on the ground.

Grounded (Electrical) – A method to dissipate static or electrical charges.

Grounded (Machines) – The placement of a machine component on the ground or device where it is firmly supported.

Guarded – Covered, shielded, fenced, enclosed, or otherwise protected by means of suitable enclosures, covers, casings, shields, troughs, railings, screens, mats, or platforms, or by location to prevent injury.

Guyline – A standing line used to support or stabilize a spar, tail tree, intermediate support tree, machinery or equipment.

Health care provider – A health care practitioner operating within the scope of their license, certificate, registration, or legally authorized practice.

High lead – A system of logging where the mainline is threaded through the mainline block which is located near the top of the spar or metal tower to obtain a lift of the logs being yarded and is returned to the vicinity of the logs by a haulback line.

High visibility colors – Bright or fluorescent white, lime green, orange, yellow, red, or aqua colors that stand out from the surrounding background color so as to make them easily seen.

In the clear – A position within the work area where the probability of hazardous contact with vehicles, machines, falling trees, moving logs, rootwads, chunks, material, rigging, and equipment is minimized by distance from the hazards and/or use of physical barriers, such as stumps, trees, terrain, or other objects providing protection.

**Initial attack - The control efforts taken by all resources which arrive at the fire during the first burning period (first 24 hours).**

Kicker (as used in cutting) – A piece of the face, or an equivalent object, placed in one side of a face cut to pull the tree from its lean as it falls.

Landing – Any designated place where logs are laid after being yarded and are awaiting subsequent handling, loading and hauling.

Landing chute – The head of the skid trail or yarding road where the logs are temporarily placed and are awaiting subsequent handling, loading, and hauling.

Lay (cutting) – The desired direction of fall for a tree.

Lay (wire rope) – A unit of measure to describe the straight-line distance in which a strand of wire rope makes one complete spiral around the core of a rope. The way wires have been laid to form strands and the way strands have been laid around the core (i.e., regular, lang lay, etc.).

Limbing – To cut branches off trees.

Lodged tree (hung tree) – A tree leaning against another tree or object which prevents it from falling to the ground.

Log – A segment sawed or split from a fallen tree, such as, but not limited to, a section, bolt, or tree length.

Log dump – An area in which logs are removed from a truck or rail car. May be either dry land or water, parbuckled over a brow log or removed by machine.

Logging – All operations relating to the falling of trees, cutting the fallen trees into suitable lengths, yarding, limbing, debarking, grading, loading, hauling, unloading, storing in decks or ponds until processed from timber to wood products.

~~Logging machine – A specialized machine used or intended for use to build or maintain roads, fall trees, process trees or fiber, yard, move or handle logs, trees, chunks, and related materials. (see also Tractor and Skidder)~~

**Machine – Equipment used or intended for use in forest activities operations such as but not limited to building or maintaining roads; felling trees; processing trees or fiber; yarding, moving or handling logs, trees, chunks and other material; stream restoration; forest operations for wildlife enhancement or other management objectives; and wildland fire suppression.**

Mainline (yarding) – The line that moves the turn of logs toward the yarder in any given system.

Mechanized falling – Falling of standing timber by a self-propelled mobile-wheeled or tracked machine equipped with a shear or other powered cutting device.

Metal tower – A vertical or leaning metal tube or boom used for yarding logs by various methods of cable logging.

NRTL (Nationally Recognized Testing Laboratory) – An organization which is recognized by OSHA in accordance with OAR 437, Division 2/A, §1910.7, Appendix A, OSHA Recognition Process for Nationally Recognized Testing Laboratories.

OPS (Operator Protective Structure) – Structures or enclosures whose primary purpose is to minimize the possibility of operator injury from hazards, such as whipping saplings, branches, jill-poking and snapping winch lines with the least adverse effect on operator visibility, comfort, and protection from other hazards. Specific standards and tests exist and are referenced in many national and state codes.

Pass line – A small line threaded through a block at or near the top of a wood tree or metal tower to assist the high climber.

**Periodic review or inspection - A review or inspection that is conducted at predetermined intervals (conducted on 1 to 12 months intervals).**

Personal protective equipment – Clothing or equipment worn to protect the head, body, feet and extremities from chemical or physical hazards.

Potential failure zone – An area that could be impacted by the failure of any part of a standing tree anchor, tail or intermediate support tree as the result of forces or loads imposed on the tree by guylines, running lines or skylines. The boundaries of the zone encompass the area into which the tree, or parts of the tree, could fall, slide or roll and all trees, logs, lines and material impacted by the tree failure.

**Prescribed Fire - Any fire burning under predetermined conditions to meet specific objectives related to fuels reduction or habitat improvement.**

Qualified first aid person – Has evidence to show valid first aid and CPR training within the last 2 years.

Qualified person – A person who has:

(a) A recognized degree, certification, professional standing, knowledge, training or experience.

(b) Successfully demonstrated the ability to perform the work, solve or resolve problems relating to the work, subject matter, or project.

Rated capacity – The load identified by the manufacturer that a system, vehicle, machine or piece of equipment can lift or move.

Reach – Usually a rectangular steel tube which slides in the trailer tunnel and is used as a connection between a log truck and the trailer.

Reforestation – All forest management operations relating to the planting and nurturing of trees. The nurturing of trees includes: fertilization, pre-commercial thinning, mulching, pruning, animal control measures, application of chemicals, and stand inventories.

ROPS (Roll-Over Protective Structure) – Framing and support for machinery that reduces the possibility of a seat belted operator from being crushed should the machine roll over. Specific standards and tests exist and are referenced in many national and state codes.

Root wad – The root ball and dirt that is pulled from the ground when a tree or stump is uprooted.

Rub rails – Guarding on the exposed sides of elevated bridges, ramps or runways to prevent wheeled equipment from going over the edge.

Rub tree – A tree used to guide a turn around a certain area.

**Runner - A person who delivers supplies, materials or relays information.**

Running line – Any moving line in a cable yarding system.

Safety factor – The ratio of breaking strength to safe working strength or load.

Safety pin (shackle) – A threaded shackle pin secured by a nut that is secured with a cotter key, latchpin or molly.

Safety swede – A device that is designed for the specific purpose of making a positive connection to binders that are being closed (tightened) or opened.

**Safety Zone (fire) - A designated area of sufficient size and suitable location that is expected to protect fire personnel from known hazards without using fire**

**shelters, such as but not limited to an already burned area, previously constructed safety area, a meadow that won't burn, manmade or natural rocky area that is large enough and sufficiently devoid of fuels to take refuge without being burned.**

Serviceable condition – That quality of a tool, machine, vehicle, equipment, or other device to operate as it was intended to operate by the manufacturer.

Short log (chunks) – Any log or fiber less than 27 feet long.

Single jack – One cutter, in an area or portion of standing timber, who falls and bucks.

Single tree intermediate support system – A system for supporting a loaded skyline in a support jack suspended from a single tree. The tree may be an upright single-rooted tree or a leaning tree severed or partially severed from the stump.

Siwash (intentional) – The use of a natural physical object, such as a tree or stump, that changes the direction of a line rather than with a block.

Siwash (unintentional) – When a line is incorrectly routed through standing timber or other objects or, as often occurs in side-hill yarding, the turn of logs pulls the bight of the line downhill and it hangs up on a stump, root wad or other object, changing the lead and creating a hazardous area.

Skidder – A self-propelled machine, of the wheel or crawler design, or an animal used to move logs or trees to a landing.

Skidding – The movement of logs or fiber on the surface of the ground toward the place where they can be further processed or loaded.

Skyline – The line which is hung between two or more supports on which a carriage or block travels.

Slackline – A system of logging where a carriage travels on a skyline that can be raised or lowered. The carriage is pulled to the landing by the mainline (skidding line) and is returned to the vicinity of the logs by the haulback line or gravity.

Slash burning – The use of prescribed fire as a method of forest management.

Slope (grade) – The increase or decrease in altitude over a horizontal distance expressed as a percentage. For example, change of altitude of 20 feet (6 m) over a horizontal distance of 100 feet (30 m) is expressed as a 20 percent slope.

Snag – Any standing dead tree or portion thereof.

Snubbing – Retarding or controlling the movement of logs or machines by attachment to another vehicle or stationary object.

Spring pole – A tree, segment of a tree, limb, or sapling which is under stress or tension due to the pressure or weight of another object.

Square lead – A horizontal angle of up to 90 degrees formed by the projected lines of the mainline from the drum of the logging machine through the block or fairlead and the yarding road.

**Stability (machine or vehicle) - The capacity of a machine or vehicle to return to equilibrium or to its original position after having been displaced.**

Strip – A stand of timber or area of fallen and bucked timber in a predetermined location on which employees work in a planned pattern.

Supervisory personnel – Agent of the employer (such as a manager, superintendent, foreperson, hooktender, rigging slinger, or person in charge of all or part of the place of employment) who directs the work activities of one or more employees.

Swede connection – A line configuration consisting of wrapping two choker lines in the same direction around a tree or log and connecting the line nubbins to opposite line bells.

Swing cut – A back cut in which the holding wood on one side is cut through.

Swing radius (machines) – Is that distance equal to actual working radius of machines capable of upper structure rotation plus the length of the attachments, logs, and materials being handled.

Tail hold – An anchor used for making fast any line or block other than a guyline.

Tail tree – The tree at the opposite end from the landing area on which rigging is hung.

Tight line – When a force is exerted on both main line and haulback at the same time.

Timber cutting – The falling and/or bucking of trees by hand or mechanical means.

Topping – Cutting off the top section of a standing tree prior to rigging the tree for a spar or tail tree.

TOPS (Tip-Over Protective Structure) – Framing and support for machinery that reduces the possibility of a seat belted operator from being injured should the machine tip over on its side. Specific standards and tests exist and are referenced in many national and state codes.

Tractor – A self-propelled machine of wheel or crawler design used to exert a push or pull force through mounted equipment to move objects or material.

Tree jack (shoe) (other than for directional falling use) – A grooved saddle of wood, soft metal or rollers contained within two steel side plates attached to a tree with a strap as a guide for a skyline, sail guy or similar static line.

Tree plates – Steel bars sometimes shaped as elongated “J”s which are fastened to a tree to hold the guylines and prevent the rigging from cutting into the tree when tightened. The hook of the “J” is also used to prevent the mainline block strap from sliding.

Turn – Any log or group of logs or other material usually attached by chokers, grapples or other means and moved from a point of rest to the landing or landing chute area.

Undercut (face) – A notch cut in a tree to guide the direction of the tree fall and help prevent splitting or kickback.

V-lead – A horizontal angle of less than 90 degrees formed by the projected lines of the mainline from the drum of the logging machine through the block or fairlead and the yarding road.

Vehicle – A car, bus, truck, trailer or semi-trailer owned, leased or rented by the employer that is used for transportation of employees or movement of material. Any carrier that is not manually propelled.

**Watcher/Firewatch - A person who visually observes the area on which operation activity occurred for the out-break of fire.**

**Wildland Fire - Any non-structure fire, other than prescribed fire, that occurs in the wildland.**

Wildlands fire fighting – All activities, operations, and equipment of employers and employees involved in the suppression or control of fires on wildlands. Does not include interior structural fire suppression or control.

Wildlife tree – A live, partially dead, or snag tree in the forest riparian zone, or in a cutting unit that is left for wildlife habitat. May also be a danger tree.

Winching – The winding of cable or rope onto a spool or drum.

Within the stakes – When the log center is below the top of the stakes.

Work area – Any area frequented by employees in the performance of assigned or related duties.

Wrapper (tie down) – A chain, cable, steel banding, synthetic rope or fiber webbing assembly used to contain a load of logs.

Yarder – A machine with a series of drums used to yard logs.

Yarding – Movement of logs or trees from the place they were felled to an area where they can be further processed.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### 437-007-0130 Employee Involvement. The employer or their authorized representative must:

(1) Encourage employees to participate in site planning and the pre-work safety meeting to discuss site conditions and known hazards.

(2) Require employees to report safety and health hazards.

(3) Require qualified employees to take corrective action and eliminate hazards.

(4) Conduct monthly safety meetings with all employees.

(a) Keep written minutes and attendance records for 3 years.

(b) Make written minutes and attendance records available to all employees.

NOTE 1: Meetings may be with individuals, separate crews, or larger groups.

**NOTE 2: Upon written application, OR-OSHA may approve an innovative method to comply with the requirements for monthly safety meetings.**

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### 437-007-0215 Working Alone

(1) The employer must not assign workers to a task or location so isolated as to be without visual, audible, or radio contact with another person who can summon or provide aid in an emergency.

(2) **Unless otherwise specified in Division 7, in any operations where fire suppression, prescribed fire, tree climbing,** power chain saw operation, yarding, loading or a combination of these duties is carried on, there must be a minimum crew of two employees who must work as a team and must be in visual or natural unassisted voice communication with one another.

(3) Workers are not prohibited from working alone when performing certain jobs which by their nature may be single employee assignments, such as: mechanics, watchers, the operation of motor vehicles, self-loading log trucks, mechanized logging machines, feller bunchers, forwarders, processors, harvesters or excavator-based machines, provided the employer complies with the requirements of 437-007-0210(2), Checking System; 437-007-0775, Protective Structures for Operators; and 437-007-0220, Medical Services and First Aid.

(4) Mechanics or other employees must not be assigned to work on machines by themselves when there is a probability of a fall from elevated work locations or machines. When the work is of such nature that heavy parts require moving, or there is a probability that anything heavy could fall on the person, there must be another person in the area who can render immediate assistance or emergency care.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## 437-007-0230 Power Line Safeguards.

(1) [~~Logging~~] **Forest activities** operations near overhead electric lines must be done in accordance with the requirements of OAR 437, Division 2/S, Electrical, §1910.333(c)(3), Selection and Use of Work Practices.

(2) When any machinery is being moved or operated in the vicinity of an overhead power line, a minimum clearance of 15 feet must be maintained between the overhead power lines and all elements of the machine, including logs, trees, or other material being handled by the machine.

NOTE: Any overhead power line must be considered to be an energized line until the person owning the line or the electrical utility authorities indicate that it is not energized.

(3) While falling trees, the minimum distance required by this section applies when a tree could fall within 15 feet of an overhead power line.

(4) The minimum distance required when cable yarding must not be reduced by line whip or breakage.

(5) A person must be designated to observe clearance and give timely warning for all operations where it is difficult for the operator to maintain the required distance by visual means.

(6) If work activities could encroach upon the minimum clearance required by this section, the employer or person responsible for the work to be done must promptly notify the power company in accordance with ORS 757.805, Oregon's Overhead Line Safety Act. The responsible party and the power company must complete mutually satisfactory safety measures as required before proceeding with any work which would impair the aforesaid clearance.

(7) If contact is made with a power line by a tree, rigging, machinery, or the structure supporting the overhead powerline is damaged by forest activities, the power company

must be notified immediately and all employees must remain clear of the area until power company personnel advise that conditions are safe.

Stat. Auth.: ORS 654.025(2) and 656.726(4).  
Stats. Implemented: ORS 654.001 through 654.295.  
Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.  
**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### 437-007-0235 [~~Weather~~] **Working** Conditions.

~~[Weather] Working~~ Conditions. [~~If the logging cannot be made safe because of inclement weather conditions or darkness, work must be discontinued until these conditions change to allow safe operation.~~] **A competent person must determine if work activities can be safely conducted during inclement weather conditions or darkness. When weather conditions or darkness pose a hazard to workers, the activity must be discontinued until the work is arranged to mitigate the hazard.** **NOTE: This rule does not prohibit logging or wildland fire suppression activities at night, but it requires an assessment of conditions so work can be done safely.**

Stat. Auth.: ORS 654.025(2) and 656.726(4).  
Stats. Implemented: ORS 654.001 through 654.295.  
Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.  
**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### 437-007-0640 Metal Spar Guyline Safety Straps

(1) A guyline safety strap or equivalent device must be installed at the top of metal spars to prevent guylines from falling vertically more than 5 feet in case of structural or mechanical failure of the guyline attachment.

(2) Metal spar guyline safety straps or equivalent devices must be equal to the individual strength of any guyline being used.

(3) The ends of metal spar guyline safety straps must be connected to each other, **or installed per manufacturers' instructions.**

NOTE: Two eyes secured with a shackle or two poured nubbins secured in a connector are acceptable for the connections.

(4) The use of cable clips or clamps for joining the ends of metal spar guyline safety straps is prohibited.

Stat. Auth.: ORS 654.025(2) and 656.726(4).  
Stats. Implemented: ORS 654.001 through 654.295.  
Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.  
**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## 437-007-0650 Guylines – General Requirements

- (1) Splicing of guylines is prohibited except to make an eye.
  - (2) Guylines used to stabilize logging machines must be at least of the size, strength and number recommended by the machine manufacturer.
  - (3) Load-bearing guyline angles must not be greater than 50 degrees measured horizontally or that recommended by the machine manufacturer. If suitable anchors are not available or the terrain is so steep that the guyline angle exceeds 50 degrees or the machine manufacturer's recommendation, additional precautions must be taken, such as rearranging guylines to oppose the load, adding an additional guyline to oppose the load, or narrowing yarding roads.
  - (4) Tail and intermediate support tree guylines must be:
    - (a) Arranged and adjusted so they share the load when lines are tensioned.
    - (b) Kept securely tightened during the yarding process.
    - (c) Made of the same strength material as the line hung in the tree or larger size guylines must be used to provide the same relative strength.Example: In 437-007-0650(4)(c), a 1-inch swaged skyline requires guylines equivalent in strength to 5/8-inch swaged guylines.
  - (5) When using tail or intermediate support trees and the line hung in the tree is:
    - (a) 5/8- inch or less, guylines must be at least 3/8-inch.
    - (b) Greater than 5/8-inch and less than 1-inch, guylines must be at least 1/2-inch.
    - (c) 1-inch and larger, guylines must be at least 5/8-inch.
  - (6) A skyline must not be considered a guyline.
  - (7) Machines and equipment used for yarding that are specifically designed to be self-stabilizing during operation may be used without guyline(s).
- NOTE: Hydraulic excavator-based log loading machines may yard logs without using guylines.
- (8) Guylines made of synthetic materials, including the end connectors, must have the equivalent strength capacities of wire rope.
  - (9) The manufacturer's recommendations for out-of-service requirements of synthetic materials must be followed.
  - (10) When guylines are required for towers they must be positioned according to Appendix 7-I, **Figure 7-39 through Figure 7-50**.
  - (11) Tail or intermediate support tree guylines must not be pretensioned beyond the point of tree stability before the load is applied. (See Figure 7-18.)
  - (12) Trees and unintentional siwashes must not interfere with the proper alignment, placement, or tightening of guylines.
  - (13) Guylines must be hung in a manner to prevent a bight or fouling when they are tightened.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

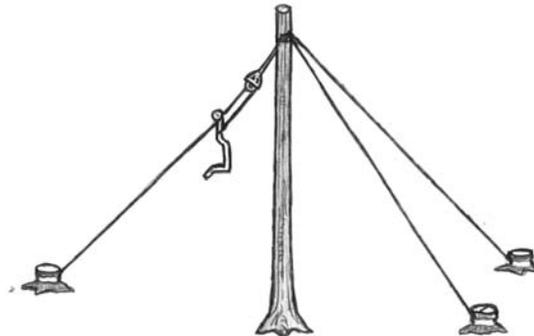
Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

OR-OSHA Admin. Order 3-2004, f. 6/7/04, ef. 6/7/04.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## 437-007-0660 Intermediate Support Trees.

- (1) Intermediate support trees must be rigged so:
  - (a) Horizontal carriage clearance at the base of the intermediate support tree(s) is sufficient for the turn of logs to pass the support tree(s).
  - (b) The jackline is a single piece of line that provides strength equal to a line 1/8-inch larger than the tong or skidding line. (Figures 7-17, 7-19 and 7-20.) Extensions may be attached to the anchor end of the jack-line.



- (2) Vertical support trees must be firmly rooted.
- (3) The base of all leaning tree supports must be prevented from moving by:
  - (a) Retaining 20 percent of the stump diameter in holding wood; or
  - (b) Other suitable rigging arrangements.
- (4) Single tree intermediate supports must be guyed as follows:
  - (a) For skylines 1-inch and smaller use the rigging configuration in Figure 7-17:
    - (A) No guylines are required when at the point of rigging attachment the tree does not move more than its diameter in the direction of load as shown in Figure 7-18.
    - (B) If the tree moves more than one diameter at the point of rigging attachment, then a guyline of the size called for in 437-007-0650(4) must be rigged to oppose the yarding forces.

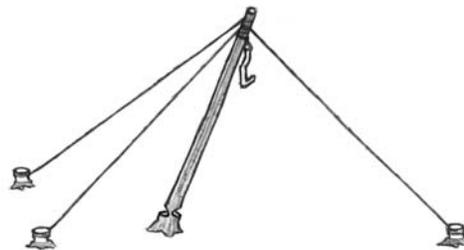


Figure 7-18 - Guyline - Tail Tree Stability

~~{Figure 7-18 - Guyline - Tail Tree Stability}~~

### **Figure 7-18 - Tail and Intermediate Support Tree Stability**

- (b) For all skylines larger than 1-inch and for skylines rigged as in Figure 7-17.
  - (A) Two guylines are needed of the sizes called for in 437-007-0650(4)(c).
  - (B) The guylines must be rigged according to 437-007-0655(4) if the tree is not stable according to Figure 7-18.
- (c) For all leaning tree intermediate supports using the rigging configuration of Figure 7-19, a minimum of three guylines must be used.
  - (A) Two guylines of the sizes called for in 437-007-0650(4)(c) must be rigged according to Appendix 7-I, Figure 7-42.
  - (B) A snap guyline of at least 3/8-inch diameter must be placed opposite the two load-bearing guylines.



- (5) Double tree supports must be rigged (see Figure 7-20) so the:
  - (a) Angle of the block to the center of the support line:
    - (A) Is 10 degrees in any direction when skylines 1 1/8-inch and smaller are used, or
    - (B) Has deflection in the direction of the jack which does not exceed 10 degrees when skylines larger than 1 1/8-inch are used.
  - (b) Loaded support trees do not displace more than 2 feet at the point of rigging attachment.
  - (c) Minimum and maximum heights of the jack relative to the height of the block is as shown below for double tree intermediate support systems.
- (6) Double tree supports must be guyed as follows:
  - (a) For skyline sizes equivalent to 1 1/8-inch improved plow steel (IPS) and less, no guys are required;
  - (b) For skyline sizes equivalent to those larger than 1 1/8-inch IPS as shown in Appendix 7-I, Figure 7-39.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

OR-OSHA Admin. Order 3-2004, f. 6/7/04, ef. 6/7/04.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## 437-007-0665 Anchoring

- (1) A competent person must carefully choose skyline, guyline and running line anchors for position and strength.

(amended graphic below with AO 2-2005, f. 5/27/05, ef. 6/1/05)

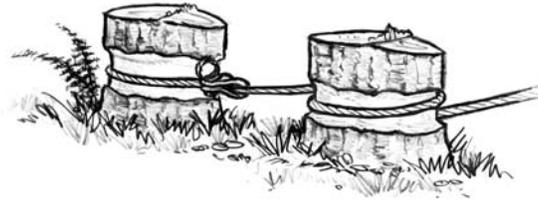


Figure 7-21 – Stump Tie Back Anchor

(graphic below was removed with AO 2-2005, f. 5/27/05, ef. 6/1/05)

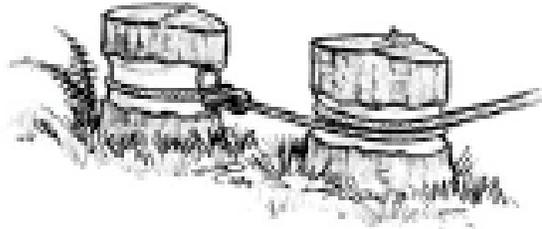


Figure 7-21 – Stump Tie Back Anchor

(2) A competent person must inspect anchors while the operation is in progress. When necessary, anchors must be tied back or changed.

Graphic

(3) Unstable yarder guyline anchors must be immediately corrected.

(4) Stump anchors must be notched to a depth not greater than is necessary to safely secure the line to the stump.

(5) Deadman anchors must have:

(a) Straps or lines equal in strength to the guyline, skyline, or mainline to attach the line to a deadman.

(b) Deadman anchor strap or line connectors visible for inspection.

graphic

(6) When a standing tree is used as an anchor:

(a) The line or strap must be attached to the base of the tree.

(b) The tree must be tied back if it is within reach of any worker, the landing area, or haul road.

NOTE: In some cases, the base of a standing tree(s) that is used as an anchor may also need to be tied-back.

Affected personnel must be notified of the standing tree anchor and the potential failure zone.

NOTE: See the potential failure zone requirements listed in 437-007-0927(1) through (7).

(7) The use of machines for anchoring guylines, skylines, or corner blocks must be done only under the supervision of a competent person.

graphic

(a) When determining if the machine is a suitable anchor, the competent person must consider:

(A) The size and weight of the machine.

(B) The size of the line to be attached.

(C) The type of logging system to be used.

(D) The condition of the soil and slope of the ground.

(E) The availability of holding aids, such as road embankments or stumps.

(F) The skyline, guyline, or running line angle from the horizontal and vertical.

(G) Any other factors which would affect the stability of the machine anchor.

(b) Line attachment points on the machine must be determined by a qualified person.

(c) Machines that are used as mobile tail anchors and are stabilized with a guyline(s) must be guyed in accordance with OAR 437-007-0650(1), (2) and (3).

graphic

(8) Rock bolt anchors must be installed, grouted, tested and maintained in accordance with the manufacturer's recommendations.

(9) Artificial earth anchors must be installed and used in accordance with their design specifications and manufacturer's recommendations.

(10) When using tipping plate anchors:

(a) Guylines, skylines, or mainlines must not be directly attached to the anchors.

(b) The combined strength of straps or lines attached to multiple anchors must be equal in strength to the guyline, skyline, or mainline.

graphic

(c) Shackles used to connect straps to the anchors must be secured with a safety pin.

NOTE: This connection will not be visible for inspection.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## 437-007-0685 Climbing Equipment and Climbing.

(1) Defective climbing equipment must be immediately removed from service.

(2) The climber must be equipped with a climbing equipment assembly having a breaking strength of not less than 5,000 pounds. The equipment must include:

(a) A safety belt with double "D" rings; **and**

(b) Steel spurs long and sharp enough to hold in any tree in which they are used; and

(c) A high-quality steel safety chain of 3/16-inch size or larger [~~whenever a chain saw or axe is used~~] **or a wire rope core climbing rope.**

- (3) A wire rope core climbing rope or chain must be attached to both of the “D” rings at the side of the belt or passed through the “D” rings and around the body. A secondary safety device must be used when snap hooks are used.
- (4) All climbers must be trained in safe rigging procedures for each applicable climbing duty.
- (5) Personnel with climbing experience and an extra set of climbing equipment must be available at the worksite to render assistance to the climber in an emergency.
- (6) Climbers must select the place for hanging rigging before topping a tree, with no more than 16 feet nor less than 6 feet of the topped tree above the top guylines.
- (7) Yarding of any type must not be conducted within reach of the tree or guylines of a tree in which a climber is working.
- (8) When machines are used to hoist rigging:
  - (a) A person must be assigned to transmit the climber's signals.
  - (b) The signal person and machine operator must not perform other duties when the climber is in the tree.
- (9) Noisy equipment, such as power saws, tractors and other logging machines, must not be operated around the area where a climber is working when such noise will interfere with the climber's signals.
- (10) Lines attached to a tree in which a climber is working must not be moved except on a signal from the climber.
- (11) A climber's rope (chain) must encircle the tree before the climber leaves the ground.
- (12) While the climber is working in the tree, employees must keep a sufficient distance from the tree to be clear of falling objects.
- (13) The climber must give warning when any equipment or material is in danger of dropping, or is dropped deliberately.
- (14) Loose equipment, rigging, or material must either be removed from the tree or securely fastened.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## 437-007-0905 Landings

- (1) Landing areas must be:
  - (a) Large and level enough to land, heel, tail/swing or process logs without striking standing timber, rigging, trucks, vehicles, equipment, other machines or objects.  
NOTE: This is not intended to restrict the occasional yarding or loading of logs for ~~[thinning, pole piling, a tree with a long break, or tree length.]~~ **poles, piling or an infrequent long break or tree length, provided the log is stabilized before unhooking the choker.**
  - (b) Large enough for safe movement of all machinery.
  - (c) Kept chunked out and have an even surface.

- (2) Outrigger pads, tracks or wheels must be on firm, stable ground, cribbing or prepared surface.
- (3) During road side thinning, logs stacked on the road side must be placed in a stable position.
- (4) Roadside or continuous landings must be wide enough to safely operate the yarding and loading equipment.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.

**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## 437-007-0935 Operation of Ground Skidding Machines and Vehicles.

- (1) Machines must not be operated on slopes in excess of the following limits unless specified by the manufacturer of the equipment.
  - (a) Rubber-tired skidders – 30 percent.
  - (b) Crawler tractors, tracked feller bunchers, tracked excavators and loaders – 40 percent.
  - (c) Other forestry equipment designed for steep slopes – 50 percent.
- (2) Operation in excess of the above limits may be permitted for specific limited application or **in** identified small areas provided the operator and ~~[supervisor]~~ **the competent person** plan how to safely operate on the steep slopes considering:
  - (a) Experience of the operator.
  - (b) Limitations of the machine and the soil conditions.
  - (c) Direction of travel (**traveling** straight up and down the slope).
  - (d) Requirements for turning the **machine or** vehicle on the slope.
  - (e) Weather.
  - (f) Load sizes.
  - (g) Any other adverse conditions.
- (3) Turnarounds must be provided on all skidding roads so operators do not have to backup more than 250 feet.
- (4) Towed equipment, such as skid pans, pallets, arches, and trailers, must be attached in a manner which will prevent overrunning of the towing vehicle, equipment or machine.
- (5) Tractors, skidders, arches, or logs being yarded must not run over or rub against anchored lines, tailhold stumps, or other rigging.
- (6) The yarding machine or vehicle, including its load, must be operated with safe clearance from trees, snags, logs, or other objects that may create a hazard for an employee.
- (7) Each machine must be positioned during winching so the machine and winch are operated within their design limits.
- (8) No load can exceed the rated capacity of the pallet, trailer, or other carrier.
- (9) Arches must be equipped with line guards.

Stat. Auth.: ORS 654.025(2) and 656.726(4).  
Stats. Implemented: ORS 654.001 through 654.295.  
Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.  
**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## 437-007-1115 Barriers For Securing Log Loads.

- (1) Barriers used to secure loads must:
  - (a) Be at least 15 feet high.
  - (b) Be designed to ~~[physically contact and]~~ prevent logs from striking personnel while binders and wrappers are removed.
  - (c) Have the barrier controls, if any, on the release side of the unloading station and forward of the truck cab guard.
- (2) Barriers and the area surrounding the barrier structure must be free of accumulations of bark, mud and other debris.

Stat. Auth.: ORS 654.025(2) and 656.726(4).  
Stats. Implemented: ORS 654.001 through 654.295.  
Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.  
**OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

## **437-007-1300 Scope of Rules.**

**(1) The purpose of the rules in Subdivision N is to provide minimum safety and health requirements for all public and private employers who engage in wildland fire prevention, wildland fire suppression or prescribed fire that includes activities such as, but not limited to:**

**Fire line construction**

**Engine (fire truck) operation**

**Dozer, skidgine and pumper-cat operation**

**Snag felling**

**Fire detection**

**Forest patrols**

**Helicopter operation**

**Slash burning**

**Mop-up**

**Laying hose lines**

**Tending dip-tanks**

**Handling, mixing and applying fire suppression chemicals**

**Stat. Auth.: ORS 654.025(2) and 656.726(4).**  
**Stats. Implemented: ORS 654.001 through 654.295.**  
**Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### **437-007-1303 Application of Rules.**

**(1) Except as otherwise specified, the rules in Subdivision N apply to all personnel engaged in wildland fire prevention, wildland fire suppression or prescribed fire activities when there is potential for exposure to wildland fire hazards such as, but not limited to:**

**Burn injuries**

**Burning embers**

**Extreme fire behavior**

**Entrapment**

**Falling snags**

**Heat exhaustion**

**Heat stroke**

**Rolling materials**

**Smoke inhalation**

**Vehicle and machine operation**

**(2) The rules in Subdivision N do not limit the use of other applicable safety and health rules.**

**(3) The rules in Subdivision N do not apply to personnel assigned to wildland fire suppression support activities, such as fire camp support positions which will not expose them to wildland fire hazards.**

**Stat. Auth.: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### **437-007-1305 General Requirements.**

**(1) Tactical and command fire suppression communications must provide a clear line of communication to all affected personnel.**

**(2) When employees are required to handle, mix and/or apply hazardous chemicals, the employer must develop, implement and maintain a written hazard communication program meeting the requirements of Division 2, Subdivision 2/Z, Toxic and Hazardous Substances, 1910.1200, Hazard Communication.**

**(3) During the initial attack on a wildland fire, when the fire and/or the fire suppression activity creates a hazardous condition for traffic and warning signs and/or flaggers are not controlling traffic, a vehicle with emergency flashing lights must be used to warn traffic.**

**NOTE: See Division 7 Subdivision F, 437-007-0510 Roads, Vehicles, Flagging and Flammables.**

**Stat. Auth.: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.

### **437-007-1310 Personnel Assignments.**

**(1) The employer and/or their authorized representative must take into account the physical capability of each employee to safely perform assigned tasks:**

- (a) Prior to job assignment, and**
- (b) While the employee performs those tasks.**

**(2) Personnel performing wildland fire suppression or prescribed fire activities except as provided for in OAR 437-007-1315(1) and (2), must:**

- (a) Work in teams of two or more, and**
- (b) Be positioned so they are close enough to render assistance to one another in case of an emergency.**

**NOTE: This rule does not prohibit the ignition and monitoring of burn piles and landings by one employee when a competent person has determined that conditions are such that the fire(s) will not spread beyond the fuels intended to be burned.**

**Stat. Auth.: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### **437-007-1315 Single Personnel Assignments.**

**(1) Single employee assignments such as watchers, security and forest patrol personnel may take appropriate action to contain, control or extinguish a fire upon discovery only when:**

**(a) They have first reported the fire, described their intended fire suppression activities, and agreed on a checking system as required by OAR 437-007-0210; and**

**(b) Their fire suppression activities are consistent with firefighter training and safety; and**

**(c) There is an escape route to a safety zone that will not be cut off if the fire increases in size or changes direction.**

**(2) A competent person must ensure that watchers, security and forest patrol personnel, and other single employee assignment personnel who are expected to perform fire suppression activities:**

**(a) Have received Basic Wildland Fire Safety Training as required by OAR 437-007-1325; and**

**(b) Are qualified in the operation of assigned fire suppression machines, equipment, and use of fire fighting tools; and**

**(c) Are advised of the requirements of OAR 437-007-1315(1) and other job site conditions, known by the employer, which could affect the extent of their fire suppression activities; and**

(d) Are physically capable of performing assigned fire suppression activities as required by OAR 437-007-1310(1).

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.

## 437-007-1320 Personal Protective Equipment.

(1) Personnel performing wildland fire suppression or prescribed fire activities must wear:

(a) Pants and a long-sleeved shirt made of cotton, wool, denim or other fire resistant materials.

NOTE: The employer is not required to provide the clothing listed in OAR 437-007-1320(1)(a).

(A) Clothing made from common permanent-press materials or synthetic fibers that melt when exposed to flame or heat must not be worn.

(B) When special protective clothing made of aramid or other fire resistant materials is required by the employer, the employer must provide it at no cost to the personnel.

(b) Footwear that:

(A) Covers and provides protection and support for the foot and ankle, such as heavy duty leather lace-up boots with an 8-inch high top.

(B) Provides for secure footing and traction for the assigned task.

NOTE: Caulked boots, in accordance with the requirement of OAR 437-007-0330, may be required for some fire suppression or prescribed fire duties.

(C) Is fire and melt resistant.

(D) Is made of or covered with chain saw cut resistant material when operating a chain saw.

NOTE: The employer is not required to provide the minimum basic footwear listed in OAR 437-007-1320(1)(b).

(c) Head protection in accordance with the requirement of OAR 437-007-0305(1) and (2).

(A) When wearing hard hats around helicopters, the hats must be secured by a chin strap.

NOTE: To reduce the possibility of blowing objects when working around helicopters, hard hats need not be worn when a competent person has determined there is no danger from falling or flying objects.

(d) Upper body cover and/or hard hats of a high-visibility color in accordance with the requirement of OAR 437-007-0310.

(e) Eye and face protection in accordance with the requirements of OAR 437-007-0315.

(f) Hand protection in accordance with the requirements of OAR 437-007-0320(1) and (2).

(g) Leg protection in accordance with the requirements of OAR 437-007-0325 when operating chain saws.

(h) Hearing protection in accordance with the requirements of OAR 437-007-0335.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.

### 437-007-1325 Training. The following requirements are in addition to the training requirements of OAR 437-007-0140.

(1) The employer and/or their authorized representative must ensure that all personnel who may be called upon to do wildland fire suppression and/or prescribed fire activities receive Basic Wildland Fire Safety Training as follows:

(a) Once a year, between January 1 and the legal declaration of fire season, for personnel who are employed at the time training is presented.

NOTE 1: Personnel who have previously received Basic Wildland Fire Safety Training need only receive refresher training on those portions of the curriculum outlined in Appendix 7-C that are relevant to the fire suppression activities to which they may be assigned.

NOTE 2: Basic Wildland Fire Safety Training is not required for personnel who are assigned to fire support positions that will not expose them to wildland fire hazards.

(b) Newly hired and/or reassigned personnel who have not received Basic Wildland Fire Safety Training must be trained within 17 days of being assigned or dispatched to wildland fire suppression or prescribed fire activities. In the interim, they may perform wildland fire suppression, or prescribed fire activities provided they work under the direct supervision of a competent person who must:

(A) Brief personnel (prior to starting fire suppression or prescribed fire activities) about the escape route(s), safety zone(s), anticipated fire activity, and what to do if they get separated from the competent person; and

(B) Provide continuous on-the-job supervision; and

(C) Provide on-the-job fire safety training; and

(D) Supervise no more than 5 untrained personnel.

NOTE: When an untrained runner is enroute, direct supervision may be achieved by radio contact provided there is a competent person providing direct supervision at both the pick-up and drop-off points.

(2) Basic Wildland Fire Safety Training must:

(a) Be presented by a qualified person, and

(b) Provide instruction and training on the curriculum outline in Appendix 7-C, and

(c) Be presented in a language and manner that the employee(s) is able to understand.

**(3) The employer must keep a current written record of Basic Wildland Fire Safety Training for each employee.**

**(4) Personnel who are issued fire shelters must receive instructions from a qualified person prior to issue, and at least once a year thereafter, on:**

**(a) How to inspect and care for the shelter, and**

**(b) How, when and where to deploy the shelter, and**

**(c) What a person needs to do in the deployed shelter.**

**NOTE: When fire shelters are required, an orderly transition for employee training must be consistent with fire suppression needs and employee safety.**

**Stat. Auth.: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### **437-007-1330 Equipment, Vehicles and Machines, General Requirements.**

**(1) Fire fighting equipment, vehicles and machines must be:**

**(a) Inspected for defects prior to the start of each shift.**

**(b) Maintained in accordance with the appropriate manufacturers' recommendations.**

**(2) Fire fighting equipment, vehicles, and machines that are defective or damaged so as to render them hazardous to operate, must be removed from service and not returned to service until repairs are completed.**

**(3) A safe and adequate means of access and egress such as steps, ladders, and handholds must be provided and maintained to all parts of vehicles and machines where employees must go.**

**(4) Machine and vehicle access must comply with the Society of Automotive Engineers' SAE J185-1988 or ISO 2867:1994, Access Systems for Off-Road Machines.**

**(5) An effective means of communication must be established when it is necessary for personnel to communicate with the operator of a vehicle, equipment or machine.**

**(6) When military vehicles are used to transport personnel, they must be equipped with standard military seating, backrests and endgates or equivalent.**

**Stat. Auth.: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.**

### **437-007-1335 Vehicle Operation.**

(1) The operation of vehicles must comply with the requirements of OAR 437-007-0520 through OAR 437-007-0570.

(2) All equipment hauled on a vehicle must be adequately secured when the vehicle is in motion.

(3) Vehicles must be brought to a full stop before personnel disembark.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.

### 437-007-1340 Machine Operation.

(1) When machines used for fire trail construction or fire fighting are operated on slopes in excess of the limitations for machine operation as defined in OAR 437-007-0935(1) and (2), a competent person must ensure that measures are taken to provide stability such as:

(a) Using the blade; or

(b) Tying to stumps, anchors, or other machines; or

(c) Using materials to limit the slope under the machine; or

(d) Limiting the operating range of movement and/or the machine loading to maintain stability.

(2) The machine operator and a competent person must agree how to safely operate on all steep slopes taking into consideration the:

(a) Experience of the operator.

(b) Limitations of the machine.

(c) The soil conditions.

(d) Direction of travel (traveling straight up and down the slope).

(e) Hazards of turning the machine on the slope.

(f) Weather.

(g) Load size.

(h) Any other adverse condition(s).

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.

### 437-007-1345 Helicopter Operations.

(1) Helicopter facilities must be kept clear of loose objects and unauthorized personnel.

(2) Personnel must not smoke within 50 feet of a helicopter, fuel storage, or fueling equipment.

(3) Unless authorized by the pilot or helicopter ground crew, personnel must stay at least:

- (a) 50 feet away from small helicopters (50 feet or less overall length), and
- (b) 100 feet away from large helicopters.

NOTE: Helicopter overall length, includes the tail boom and the rotors fully extended.

(4) A competent person must provide a detailed briefing on helicopter safety procedures to all passengers prior to loading.

(5) Personnel assigned to ride in helicopters must:

(a) Be briefed in the correct approach, riding and off-loading procedures for the particular type of helicopter.

(b) Follow instructions of helicopter personnel at all times when around helicopter.

(c) Carry all tools at their side (not slung over their shoulder) when around helicopters.

(6) Unless told otherwise by a competent person, personnel must approach and leave the helicopter in full view of the pilot.

(7) Personnel must stay away from turning tail rotors at all times.

(8) Personnel must not stand directly beneath a hovering helicopter unless they have been trained or are being trained in performing sling load hookup or bucket filling operations.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 2-2005, f. 5/27/05, ef. 6/1/05.

~~[437-007-1391 Fire Suppression By Personnel Other Than Fire Fighters.]~~

~~[(1) All forest activity personnel who may be called upon to do fire suppression in wildland areas must within 60 days of employment:]~~

~~[(a) Receive basic fire suppression training, as in Appendix 7-C; and]~~

~~[(b) This training must occur before personnel do any fire fighting work and it must include:]~~

~~[(A) The safe use of basic fire fighting tools and equipment; and]~~

~~[(B) What to do in an emergency to escape a fire area.]~~

~~[(2) When forest activity personnel whose primary duty is not fire suppression are called upon to fight wildland fire, they must wear the following protective clothing:]~~

~~[(a) Pants and long-sleeve shirt.]~~

~~[(b) 8-inch high top leather lace-up boots or other suitable footwear. The sole and heel of boots must be of slip-resistant material.]~~

~~[(c) Hand protection of at least cotton gloves required by OAR 437-007-0395(1), (2) and (3).]~~

~~[(d) Head protection required by OAR 437-007-0392(1) and (2).]~~

~~[(3) When personnel are required to wear other than the basic listed protective clothing as required by OAR 437-007-1391(2), all such special protective clothing and equipment must be provided by the employer at no cost to the personnel.]~~

~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~

~~[Stats. Implemented: ORS 654.001 through 654.295.]~~  
~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

~~[437-007-1392 Wildlands Fire Suppression and Controlled Burning by Fire Fighters. OAR 437-007-1392 through 437-007-1399 apply to personnel whose primary duty is fire fighting or controlled burning of wildland areas (i.e., professional firefighters).]~~  
~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~  
~~[Stats. Implemented: ORS 654.001 through 654.295.]~~  
~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

~~[437-007-1393 General Requirements.]~~

~~[(1) The employer must have and follow a written organizational statement that identifies the:]~~

~~[(a) Basic structure and functions of their fire fighting unit.]~~

~~[(b) Type, amount and frequency of training for fire fighters.]~~

~~[(2) The organizational statement must be available to fire fighting personnel and OR-OSHA.]~~

~~[(3) The employer must review and evaluate the physical capability of each employee annually to determine their ability to perform duties which may be assigned. The review and evaluation must be accomplished through physical examination, stress testing or satisfactory performance demonstrated during the performance of their assigned duties.]~~

~~[(4) The employer must not permit an employee with a known medical condition which would significantly impair their ability to engage in fire suppression activities, unless a physician's certificate of the employee's fitness to participate in such activities is provided.]~~

~~[NOTE: This does not limit the employer's ability to assign personnel to support activities (versus fire suppression activities).]~~

~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~  
~~]Stats. Implemented: ORS 654.001 through 654.295.]~~  
~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

~~[437-007-1394 Fire Fighting Training and Education.]~~

~~[(1) The employer or employer representative must provide training, education and hands-on activities designed to:]~~

~~[(a) Develop and maintain an appropriate level of fire fighting knowledge and skill.]~~

~~[(b) Evaluate fire fighters skills and abilities to use fire fighting tools, equipment and machinery.]~~

~~[(2) Fire fighting training and education must include:]~~

~~[(a) Pre-emergency strategy.]~~

~~[(b) Fire behavior.]~~

~~[(c) Fire suppression and control tactics.]~~  
~~[(3) Fire fighting training and education must be provided:]~~  
~~[(a) To fire fighters before they perform fire fighting activities.]~~  
~~[(b) Annually.]~~  
~~[(4) The employer must provide education and training in the safe use of fire fighting equipment, including vehicles.]~~  
~~[(5) Supervisors, crew leaders and instructors must be provided training and education appropriate to their duties.]~~  
~~[(6) The employer must keep training records for each employee.]~~  
~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~  
~~[Stats. Implemented: ORS 654.001 through 654.295.]~~  
~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

~~[437-007-1395 Protective Clothing.]~~

~~[(1) The employer must provide at no cost to employees all required special protective clothing and equipment.]~~  
~~[NOTE: The employer is not required to provide the minimum listed basic protective clothing, as listed in OAR 437-007-1391(2).]~~  
~~[(2) Hand protection must be protective gloves or a glove system that provides protection against cuts, punctures and heat penetration.]~~  
~~[(3) Body protection must be pants and long-sleeve shirts of cotton, wool, denim or of flame-resistant material.]~~  
~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~  
~~[Stats. Implemented: ORS 654.001 through 654.295.]~~  
~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

~~[437-007-1396 Head Protection. When working around helicopters, hats must be secured by chin straps.]~~  
~~[NOTE: Hard hats need not be worn when working where there is no danger from falling items. This might include the helicopter service and dip tank areas.]~~  
~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~  
~~[Stats. Implemented: ORS 654.001 through 654.295.]~~  
~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

~~[437-007-1397 Fire Fighting Equipment. The employer must maintain and inspect all fire fighting equipment to assure the safe operational condition of the equipment.]~~

~~[(1) Fire fighting equipment must be inspected for defects prior to each emergency use and inspected after each emergency use and must be maintained in accordance with the manufacturers' recommendations.]~~

~~[(2) Fire fighting equipment that is defective or damaged so as to render it hazardous to operate, must be removed from service and not returned to service until repairs are completed.]~~

~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~

~~[Stats. Implemented: ORS 654.001 through 654.295.]~~

~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

~~[437-007-1398 Vehicles.]~~

~~[(1) Vehicles used during fire fighting must comply with OAR 437 Division 7, Subdivision F.]~~

~~[(2) Personnel are not permitted to ride on the outside of a vehicle unless the vehicle is fighting a field fire and is being operated in low gear, and the employee is strapped into an enclosure especially built for that purpose.]~~

~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~

~~[Stats. Implemented: ORS 654.001 through 654.295.]~~

~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

~~[437-007-1399 Machine Operation. Machines (tractors, skidders, or excavators) used for fire trail construction or fire fighting, may be operated on slopes in excess of 50 percent provided measures are taken to assure the stability of the machine by:]~~

~~[(1) Using the blade, or]~~

~~[(2) Tying to stumps, anchors, or other machines, or]~~

~~[(3) Excavation to limit the effective slope under machine, etc.]~~

~~[Stat. Auth.: ORS 654.025(2) and 656.726(4).]~~

~~[Stats. Implemented: ORS 654.001 through 654.295.]~~

~~[Hist: OR-OSHA Admin. Order 5-2003, f. 6/02/03, ef. 12/01/03.]~~

## Appendix 7-C **(Mandatory Curriculum)**

### **BASIC WILDLAND FIRE SAFETY TRAINING**

~~[Basic Fire Control Training for Loggers]~~

~~[BASIC FIRE CONTROL TRAINING FOR LOGGING CREWS]~~

~~[COURSE OUTLINE]~~

#### BLOCK 1: ~~[INTRODUCTION]~~ **FIRE PROTECTION STATUTES AND RULES**

1. Fire Protection System in Oregon
2. Need for This Training Course
3. Summary

## BLOCK 2: BASIC FIRE BEHAVIOR

1. How a Fire Burns
2. How a Fire Spreads
3. The Fire Environment
4. Summary

## BLOCK 3: BASIC FIRE CONTROL

1. Pre-planning for an Operation Fire
2. Size-up
3. ~~[Control]~~ **Initial Attack**
4. ~~[Use of Water]~~ **Control**
5. Mop-up
- ~~6. Safety~~

## BLOCK 4: ~~[INDUSTRIAL FIRE PREVENTION STATUTES AND RULES]~~ **BASIC FIRELINE SAFETY**

~~[NOTE: An example of training in Basic Fire Control for Logging Crews is published by the Oregon Department of Forestry.]~~

- 1. The 18 Watch Out Situations**
- 2. The Ten Standard Firefighting Orders**
- 3. LCES – A System for Operational Safety**
- 4. Lessons Learned from prior experiences**
- 5. Hazards associated with aerial retardant drops**