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(*b*) Edgers shall not be located in the main roll case behind the head saws.

(ii) *Guards.* (*a*) The top and the openings in end and side frames of edgers shall be adequately guarded and gears and chains shall be fully housed. Guards may be hinged or otherwise arranged to permit oiling and the removal of saws.

(*b*) All edgers shall be equipped with pressure feed rolls.

(*c*) Pressure feed rolls on edgers shall be guarded against accidental contact.

(iii) *Antikickback devices.* (*a*) Edgers shall be provided with safety fingers or other approved methods of preventing kickbacks or guarding against them. A barricade in line with the edger, if properly fenced off, may be used if safety fingers are not feasible to install.

(*b*) A controlling device shall be installed and located so that the operator can stop the feed mechanism without releasing the tension of the pressure rolls.

(iv) *Operating speed of live rolls.* Live rolls and tailing devices in back of edger shall operate at a speed not less than the speed of the edger feed rolls.

(6) *Planers*—(i) *Guards.* (*a*) All cutting heads shall be guarded.

(*b*) Side head hoods shall be of sufficient height to safeguard the head setscrew.

(*c*) Pressure feed rolls and ''pineapples'' shall be guarded.

(*d*) Levers or controls shall be so arranged or guarded as to reduce the possibility of accidental operation.

(f) *Dry kilns and facilities*—(1) *Kiln foundations.* Dry kilns shall be constructed upon solid foundations to prevent tracks from sagging

(2) *Passageways.* A passageway shall be provided to give adequate clearance on at least one side or in the center of end-piled kilns and on two sides of cross-piled kilns.

(3) *Doors*—(i) *Main kiln doors.* (*a*) Main kiln doors shall be provided with a method of holding them open while kiln is being loaded.

(*b*) Counterweights on vertical lift doors shall be boxed or otherwise guarded.

(*c*) Adequate means shall be provided to firmly secure main doors, when they are disengaged from carriers and hangers, to prevent toppling.

(ii) *Escape doors.* (*a*) If operating procedures require access to kilns, kilns shall be provided with escape doors that operate easily from the inside, swing in the direction of exit, and are located in or near the main door at the end of the passageway.

(*b*) Escape doors shall be of adequate height and width to accommodate an average size man.

(4) *Pits.* Pits shall be well ventilated, drained, and lighted, and shall be large enough to safely accommodate the kiln operator together with operating devices such as valves, dampers, damper rods, and traps.

(5) *Steam mains.* All high-pressure steam mains located in or adjacent to an operating pit shall be covered with heat-insulating material.

(6) *Ladders.* A fixed ladder complying with the requirements of subpart D of this part, or other adequate means, shall be provided to permit access to the roof. Where controls and machinery are mounted on the roof, a permanent stairway with standard handrail shall be installed in accordance with the requirements in subpart D.

(7) *Chocks.* A means shall be provided for chocking or blocking cars.

(8) *Kiln tender room.* A warm room shall be provided for kiln employees to stay in during cold weather after leaving a hot kiln.

[39 FR 23502, June 27, 1974, as amended at 40 FR 23073, May 28, 1975; 43 FR 49751, Oct. 24, 1978; 43 FR 51760, Nov. 7, 1978; 53 FR 12123, Apr. 12, 1988; 55 FR 32015, Aug. 6, 1990; 61 FR 9241, Mar. 7, 1996; 63 FR 33467, June 18, 1998; 70 FR 53929, Sept. 13, 2005; 76 FR 80739, Dec. 27, 2011; 81 FR 83006, Nov. 18, 2016]

§ 1910.266 Logging operations.

(a) *Table of contents.* This paragraph contains the list of paragraphs and appendices contained in this section.

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APPENDIX A—MINIMUM FIRST-AID SUPPLIES
APPENDIX B—MINIMUM FIRST-AID TRAINING
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(b) *Scope and application.* (1) This standard establishes safety practices, means, methods and operations for all types of logging, regardless of the end use of the wood. These types of logging include, but are not limited to, pulpwood and timber harvesting and the logging of sawlogs, veneer bolts, poles, pilings and other forest products. This standard does not cover the construction or use of cable yarding systems.

(2) This standard applies to all logging operations as defined by this section.

(3) Hazards and working conditions not specifically addressed by this section are covered by other applicable sections of part 1910.

(c) *Definitions applicable to this section.*

Arch. An open-framed trailer or built-up framework used to suspend the leading ends of trees or logs when they are skidded.

Backcut (felling cut). The final cut in a felling operation.

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

Buck. To cut a felled tree into logs.

Butt. The bottom of the felled part of a tree.

Cable yarding. The movement of felled trees or logs from the area where they are felled to the landing on a system composed of a cable suspended from spars and/or towers. The trees or logs may be either dragged across the ground on the cable or carried while suspended from the cable.

Chock. A block, often wedge shaped, which is used to prevent movement; e.g., a log from rolling, a wheel from turning.

Choker. A sling used to encircle the end of a log for yarding. One end is passed around the load, then through a loop eye, end fitting or other device at the other end of the sling. The end that passed through the end fitting or other device is then hooked to the lifting or pulling machine.

Danger tree. A standing tree that presents a hazard to employees due to conditions such as, but not limited to, deterioration or physical damage to the root system, trunk, stem or limbs, and the direction and lean of the tree.

Debark. To remove bark from trees or logs.

Deck. A stack of trees or logs.

Designated person. An employee who has the requisite knowledge, training and experience to perform specific duties.

Domino felling. The partial cutting of multiple trees which are left standing and then pushed over with a pusher tree.

Fell (fall). To cut down trees.

Feller (faller). An employee who fells trees.

Grounded. The placement of a component of a machine on the ground or on a 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.

Health care provider. A health care practitioner operating with the scope of his/her license, certificate, registration or legally authorized practice.

Landing. Any place where logs are laid after being yarded, and before transport from the work site.

Limbing. To cut branches off felled trees.

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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 felled tree, such as, but not limited to, a section, bolt, or tree length.

Logging operations. Operations associated with felling and moving trees and logs from the stump to the point of delivery, such as, but not limited to, marking danger trees and trees/logs to be cut to length, felling, limbing, bucking, debarking, chipping, yarding, loading, unloading, storing, and transporting machines, equipment and personnel to, from and between logging sites.

Machine. A piece of stationary or mobile equipment having a self-contained powerplant, that is operated off-road and used for the movement of material. Machines include, but are not limited to, tractors, skidders, front-end loaders, scrapers, graders, bulldozers, swing yarders, log stackers, log loaders, and mechanical felling devices, such as tree shears and feller-bunchers. Machines do not include airplanes or aircraft (e.g., helicopters).

Rated capacity. The maximum load a system, vehicle, machine or piece of equipment was designed by the manufacturer to handle.

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

Serviceable condition. A state or ability of a tool, machine, vehicle or other device to operate as it was intended by the manufacturer to operate.

Skidding. The yarding of trees or logs by pulling or towing them across the ground.

Slope (grade). The increase or decrease in altitude over a horizontal distance expressed as a percentage. For example, a 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.

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.

Tie down. Chain, cable, steel strips or fiber webbing and binders attached to a truck, trailer or other conveyance as a means to secure loads and to prevent them from shifting or moving when they are being transported.

Undercut. A notch cut in a tree to guide the direction of the tree fall and to prevent splitting or kickback.

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.

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

Yarding. The movement of logs from the place they are felled to a landing.

(d) *General requirements*—(1) *Personal protective equipment.* (i) The employer shall assure that personal protective equipment, including any personal protective equipment provided by an employee, is maintained in a serviceable condition.

(ii) The employer shall assure that personal protective equipment, including any personal protective equipment provided by an employee, is inspected before initial use during each workshift. Defects or damage shall be repaired or the unserviceable personal protective equipment shall be replaced before work is commenced.

(iii) The employer shall provide, at no cost to the employee, and assure that each employee handling wire rope wears, hand protection which provides adequate protection from puncture wounds, cuts and lacerations.

(iv) The employer shall provide, at no cost to the employee, and assure that each employee who operates a chain saw wears leg protection constructed with cut-resistant material, such as ballistic nylon. The leg protection shall cover the full length of the thigh to the top of the boot on each leg to protect against contact with a moving chain saw. *Exception:* This requirement does not apply when an employee is working as a climber if the employer demonstrates that a greater hazard is posed by wearing leg protection in the particular situation, or when an employee is working from a vehicular mounted elevating and rotating work platform meeting the requirements of 29 CFR 1910.67.

(v) The employer shall assure that each employee wears foot protection, such as heavy-duty logging boots that

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are waterproof or water repellant, cover and provide support to the ankle. The employer shall assure that each employee who operates a chain saw wears foot protection that is constructed with cut-resistant material which will protect the employee against contact with a running chain saw. Sharp, calk-soled boots or other slip-resistant type boots may be worn where the employer demonstrates that they are necessary for the employee's job, the terrain, the timber type, and the weather conditions, provided that foot protection otherwise required by this paragraph is met.

(vi) The employer shall provide, at no cost to the employee, and assure that each employee who works in an area where there is potential for head injury from falling or flying objects wears head protection meeting the requirements of subpart I of part 1910.

(vii) The employer shall provide, at no cost to the employee, and assure that each employee wears the following:

(A) Eye protection meeting the requirements of subpart I of part 1910 where there is potential for eye injury due to falling or flying objects; and

(B) Face protection meeting the requirements of subpart I of part 1910 where there is potential for facial injury such as, but not limited to, operating a chipper. Logger-type mesh screens may be worn by employees performing chain-saw operations and yarding.

NOTE TO PARAGRAPH (d)(1)(vii): The employee does not have to wear a separate eye protection device where face protection covering both the eyes and face is worn.

(2) *First-aid kits.* (i) The employer shall provide first-aid kits at each work site where trees are being cut (e.g., felling, bucking, limbing), at each active landing, and on each employee transport vehicle. The number of first-aid kits and the content of each kit shall reflect the degree of isolation, the number of employees, and the hazards reasonably anticipated at the work site.

(ii) At a minimum, each first-aid kit shall contain the items listed in appendix A at all times.

(iii) The employer also may have the number and content of first-aid kits reviewed and approved annually by a health care provider.

(iv) The employer shall maintain the contents of each first-aid kit in a serviceable condition.

(3) *Seat belts.* For each vehicle or machine (equipped with ROPS/FOPS or overhead guards), including any vehicle or machine provided by an employee, the employer shall assure:

(i) That a seat belt is provided for each vehicle or machine operator;

(ii) That each employee uses the available seat belt while the vehicle or machine is being operated;

(iii) That each employee securely and tightly fastens the seat belt to restrain the employee within the vehicle or machine cab;

(iv) That each machine seat belt meets the requirements of the Society of Automotive Engineers Standard SAE J386, June 1985, ''Operator Restraint Systems for Off-Road Work Machines'', which is incorporated by reference as specified in §1910.6.

(v) That seat belts are not removed from any vehicle or machine. The employer shall replace each seat belt which has been removed from any vehicle or machine that was equipped with seat belts at the time of manufacture; and

(vi) That each seat belt is maintained in a serviceable condition.

(4) *Fire extinguishers.* The employer shall provide and maintain portable fire extinguishers on each machine and vehicle in accordance with the requirements of subpart L of part 1910.

(5) *Environmental conditions.* All work shall terminate and each employee shall move to a place of safety when environmental conditions, such as but not limited to, electrical storms, strong winds which may affect the fall of a tree, heavy rain or snow, extreme cold, dense fog, fires, mudslides, and darkness, create a hazard for the employee in the performance of the job.

(6) *Work areas.* (i) Employees shall be spaced and the duties of each employee shall be organized so the actions of one employee will not create a hazard for any other employee.

(ii) Work areas shall be assigned so that trees cannot fall into an adjacent occupied work area. The distance between adjacent occupied work areas

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shall be at least two tree lengths of the trees being felled. The distance between adjacent occupied work areas shall reflect the degree of slope, the density of the growth, the height of the trees, the soil structure and other hazards reasonably anticipated at that work site. A distance of greater than two tree lengths shall be maintained between adjacent occupied work areas on any slope where rolling or sliding of trees or logs is reasonably foreseeable.

(iii) Each employee performing a logging operation at a logging work site shall work in a position or location that is within visual or audible contact with another employee.

(iv) The employer shall account for each employee at the end of each workshift.

(7) *Signaling and signal equipment.* (i) Hand signals or audible contact, such as but not limited to, whistles, horns, or radios, shall be utilized whenever noise, distance, restricted visibility, or other factors prevent clear understanding of normal voice communications between employees.

(ii) Engine noise, such as from a chain saw, is not an acceptable means of signaling. Other locally and regionally recognized signals may be used.

(iii) Only a designated person shall give signals, except in an emergency.

(8) *Overhead electric lines.* (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.

(9) *Flammable and combustible liquids.* (i) Flammable and combustible liquids shall be stored, handled, transported, and used in accordance with the requirements of subpart H of part 1910.

(ii) Flammable and combustible liquids shall not be transported in the driver compartment or in any passenger-occupied area of a machine or vehicle.

(iii) Each machine, vehicle, and portable powered tool shall be shut off during fueling. Diesel-powered machines and vehicles may be fueled while they are at idle, provided that continued operation is intended and that the employer follows safe fueling and operating procedures.

(iv) Flammable and combustible liquids, including chain-saw and diesel fuel, may be used to start a fire, provided the employer assures that in the particular situation its use does not create a hazard for an employee.

(10) *Explosives and blasting agents.* (i) Explosives and blasting agents shall be stored, handled, transported, and used in accordance with the requirements of subpart H of part 1910.

(ii) Only a designated person shall handle or use explosives and blasting agents.

(iii) Explosives and blasting agents shall not be transported in the driver compartment or in any passenger-occupied area of a machine or vehicle.

(e) *Hand and portable powered tools*—(1) *General requirements.* (i) The employer shall assure that each hand and portable powered tool, including any tool provided by an employee, is maintained in serviceable condition.

(ii) The employer shall assure that each tool, including any tool provided by an employee, is inspected before initial use during each workshift. At a minimum, the inspection shall include the following:

(A) Handles and guards, to assure that they are sound, tight-fitting, properly shaped, free of splinters and sharp edges, and in place;

(B) Controls, to assure proper function;

(C) Chain-saw chains, to assure proper adjustment;

(D) Chain-saw mufflers, to assure that they are operational and in place;

(E) Chain brakes and nose shielding devices, to assure that they are in place and function properly;

(F) Heads of shock, impact-driven and driving tools, to assure that there is no mushrooming;

(G) Cutting edges, to assure that they are sharp and properly shaped; and

(H) All other safety devices, to assure that they are in place and function properly.

(iii) The employer shall assure that each tool is used only for purposes for which it has been designed.

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(iv) When the head of any shock, impact-driven or driving tool begins to chip, it shall be repaired or removed from service.

(v) The cutting edge of each tool shall be sharpened in accordance with manufacturer's specifications whenever it becomes dull during the workshift.

(vi) Each tool shall be stored in the provided location when not being used at a work site.

(vii) Racks, boxes, holsters or other means shall be provided, arranged and used for the transportation of tools so that a hazard is not created for any vehicle operator or passenger.

(2) *Chain saws.* (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 §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 chainsaw 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.

(f) *Machines*—(1) *General requirements.* (i) The employer shall assure that each machine, including any machine provided by an employee, is maintained in serviceable condition.

(ii) The employer shall assure that each machine, including any machine provided by an employee, is inspected before initial use during each workshift. Defects or damage shall be repaired or the unserviceable machine shall be replaced before work is commenced.

(iii) The employer shall assure that operating and maintenance instructions are available on the machine or in the area where the machine is being operated. Each machine operator and maintenance employee shall comply with the operating and maintenance instructions.

(2) *Machine operation.* (i) The machine shall be started and operated only by a designated person.

(ii) Stationary logging machines and their components shall be anchored or otherwise stabilized to prevent movement during operation.

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(iii) The rated capacity of any machine shall not be exceeded.

(iv) To maintain stability, the machine must be operated within the limitations imposed by the manufacturer as described in the operating and maintenance instructions for that machine.

(v) Before starting or moving any machine, the operator shall determine that no employee is in the path of the machine.

(vi) The machine shall be operated only from the operator's station or as otherwise recommended by the manufacturer.

(vii) The machine shall be operated at such a distance from employees and other machines such that operation will not create a hazard for an employee.

(viii) No employee other than the operator shall ride on any mobile machine unless seating, seat belts and other protection equivalent to that provided for the operator are provided.

(ix) No employee shall ride on any load.

(x) Before the operator leaves the operator's station of a machine, it shall be secured as follows:

(A) The parking brake or brake locks shall be applied;

(B) The transmission shall be placed in the manufacturer's specified park position; and

(C) Each moving element such as, but not limited to blades, buckets, saws and shears, shall be lowered to the ground or otherwise secured.

(xi) If a hydraulic or pneumatic storage device can move the moving elements such as, but not limited to, blades, buckets, saws and shears, after the machine is shut down, the pressure or stored energy from the element shall be discharged as specified by the manufacturer.

(xii) The rated capacity of any vehicle transporting a machine shall not be exceeded.

(xiii) The machine shall be loaded, secured and unloaded so that it will not create a hazard for any employee.

(3) *Protective structures.* (i) Each tractor, skidder, swing yarder, log stacker, log loader and mechanical felling device, such as tree shears or feller-buncher, placed into initial service after February 9, 1995, shall be equipped with falling object protective structure (FOPS) and/or rollover protective structure (ROPS). The employer shall replace FOPS or ROPS which have been removed from any machine. *Exception:* This requirement does not apply to machines which are capable of 360 degree rotation.

(ii)(A) ROPS shall be tested, installed, and maintained in serviceable condition.

(B) Each machine manufactured after August 1, 1996, shall have ROPS tested, installed, and maintained in accordance with the Society of Automotive Engineers SAE J1040, April 1988, ''Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry, and Mining Machines'', which is incorporated by reference as specified in §1910.6.

(C) This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096. Copies may be inspected at the Docket Office, Occupational Safety and Health Administration, U.S. Department of Labor, 200 Constitution Avenue NW., room N2625, Washington, DC 20210, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(iii) FOPS shall be installed, tested and maintained in accordance with the Society of Automotive Engineers SAE J231, January 1981, ''Minimum Performance Criteria for Falling Object Protective Structures (FOPS)'', which is incorporated by reference as specified in §1910.6.

(iv) ROPS and FOPS shall meet the requirements of the Society of Automotive Engineers SAE J397, April 1988, ''Deflection Limiting Volume-ROPS/FOPS Laboratory Evaluation'', which is incorporated by reference as specified in §1910.6.

(v) Each protective structure shall be of a size that does not impede the operator's normal movements.

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(vi) The overhead covering of each cab shall be of solid material and shall extend over the entire canopy.

(vii) Each machine manufactured after August 1, 1996, shall have a cab that is fully enclosed with mesh material with openings no greater than 2 inches (5.08 cm) at its least dimension. The cab may be enclosed with other material(s) where the employer demonstrates such material(s) provides equivalent protection and visibility. Exception: Equivalent visibility is not required for the lower portion of the cab where there are control panels or similar obstructions in the cab, or where visibility is not necessary for safe operation of the machine.

(viii) Each machine manufactured on or before August 1, 1996 shall have a cab which meets the requirements specified in paragraph (f)(3)(vii) or a protective canopy for the operator which meets the following requirements:

(A) The protective canopy shall be constructed to protect the operator from injury due to falling trees, limbs, saplings or branches which might enter the compartment side areas and from snapping winch lines or other objects;

(B) The lower portion of the cab shall be fully enclosed with solid material, except at entrances, to prevent the operator from being injured from obstacles entering the cab;

(C) The upper rear portion of the cab shall be fully enclosed with open mesh material with openings of such size as to reject the entrance of an object larger than 2 inches in diameter. It shall provide maximum rearward visibility; and

(D) Open mesh shall be extended forward as far as possible from the rear corners of the cab sides so as to give the maximum protection against obstacles, branches, etc., entering the cab area.

(ix) The enclosure of the upper portion of each cab shall allow maximum visibility.

(x) When transparent material is used to enclose the upper portion of the cab, it shall be made of safety glass or other material that the employer demonstrates provides equivalent protection and visibility.

(xi) Transparent material shall be kept clean to assure operator visibility.

(xii) Transparent material that may create a hazard for the operator, such as but not limited to, cracked, broken or scratched safety glass, shall be replaced.

(xiii) Deflectors shall be installed in front of each cab to deflect whipping saplings and branches. Deflectors shall be located so as not to impede visibility and access to the cab.

(xiv) The height of each cab entrance shall be at least 52 inches (1.3 meters) from the floor of the cab.

(xv) Each machine operated near cable yarding operations shall be equipped with sheds or roofs of sufficient strength to provide protection from breaking lines.

(4) *Overhead guards.* Each forklift shall be equipped with an overhead guard meeting the requirements of the American Society of Mechanical Engineers, ASME B56.6–1992 (with addenda), ''Safety Standard for Rough Terrain Forklift Trucks'', which is incorporated by reference as specified in §1910.6.

(5) *Machine access.* (i) Machine access systems, meeting the specifications of the Society of Automotive Engineers, SAE J185, June 1988, ''Recommended Practice for Access Systems for Off-Road Machines'', which is incorporated by reference as specified in §1910.6, shall be provided for each machine where the operator or any other employee must climb onto the machine to enter the cab or to perform maintenance.

(ii) Each machine cab shall have a second means of egress.

(iii) Walking and working surfaces of each machine and machine work station shall have a slip resistant surface to assure safe footing.

(iv) The walking and working surface of each machine shall be kept free of waste, debris and any other material which might result in fire, slipping, or falling.

(6) *Exhaust systems.* (i) The exhaust pipes on each machine shall be located so exhaust gases are directed away from the operator.

(ii) The exhaust pipes on each machine shall be mounted or guarded to

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protect each employee from accidental contact.

(iii) The exhaust pipes shall be equipped with spark arresters. Engines equipped with turbochargers do not require spark arresters.

(iv) Each machine muffler provided by the manufacturer, or their equivalent, shall be in place at all times the machine is in operation.

(7) *Brakes.* (i) Service brakes shall be sufficient to stop and hold each machine and its rated load capacity on the slopes over which it is being operated.

(ii) Each machine placed into initial service on or after September 8, 1995 shall also be equipped with: back-up or secondary brakes that are capable of stopping the machine regardless of the direction of travel or whether the engine is running; and parking brakes that are capable of continuously holding a stopped machine stationary.

(8) *Guarding.* (i) Each machine shall be equipped with guarding to protect employees from exposed moving elements, such as but not limited to, shafts, pulleys, belts on conveyors, and gears, in accordance with the requirements of subpart O of part 1910.

(ii) Each machine used for debarking, limbing and chipping shall be equipped with guarding to protect employees from flying wood chunks, logs, chips, bark, limbs and other material in accordance with the requirements of subpart O of part 1910.

(iii) The guarding on each machine shall be in place at all times the machine is in operation.

(g) *Vehicles.* (1) The employer shall assure that each vehicle used to perform any logging operation is maintained in serviceable condition.

(2) The employer shall assure that each vehicle used to perform any logging operation is inspected before initial use during each workshift. Defects or damage shall be repaired or the unserviceable vehicle shall be replaced before work is commenced.

(3) The employer shall assure that operating and maintenance instructions are available in each vehicle. Each vehicle operator and maintenance employee shall comply with the operating and maintenance instructions.

(4) The employer shall assure that each vehicle operator has a valid operator's license for the class of vehicle being operated.

(5) Mounting steps and handholds shall be provided for each vehicle wherever it is necessary to prevent an employee from being injured when entering or leaving the vehicle.

(6) The seats of each vehicle shall be securely fastened.

(7) The requirements of paragraphs (f)(2)(iii), (f)(2)(v), (f)(2)(vii), (f)(2)(x), (f)(2)(xiii), and (f)(7) of this section shall also apply to each vehicle used to transport any employee off public roads or to perform any logging operation, including any vehicle provided by an employee.

(h) *Tree harvesting*—(1) *General requirements.* (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

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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.

(ix) Domino felling of trees is prohibited.

NOTE TO PARAGRAPH (h)(1)(ix): The definition of domino felling does not include the felling of a single danger tree by felling another single tree into it.

(2) *Manual felling.* (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 (h)(2)(vii): This requirement does not apply to open face felling where two angled facecuts rather than a horizontal facecut are used.

(3) *Limbing and bucking.* (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 windthrown 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.

(4) *Chipping (in-woods locations).* (i) Chipper access covers or doors shall not be opened until the drum or disc is at a complete stop.

(ii) Infeed and discharge ports shall be guarded to prevent contact with the disc, knives, or blower blades.

(iii) The chipper shall be shut down and locked out in accordance with the requirements of 29 CFR 1910.147 when an employee performs any servicing or maintenance.

(iv) Detached trailer chippers shall be chocked during usage on any slope where rolling or sliding of the chipper is reasonably foreseeable.

(5) *Yarding.* (i) No log shall be moved until each employee is in the clear.

(ii) Each choker shall be hooked and unhooked from the uphill side or end of the log, unless the employer demonstrates that is it not feasible in the particular situation to hook or unhook the choker from the uphill side. Where the choker is hooked or unhooked from the downhill side or end of the log, the

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log shall be securely chocked to prevent rolling, sliding or swinging.

(iii) Each choker shall be positioned near the end of the log or tree length.

(iv) Each machine shall be positioned during winching so the machine and winch are operated within their design limits.

(v) No yarding line shall be moved unless the yarding machine operator has clearly received and understood the signal to do so. When in doubt, the yarding machine operator shall repeat the signal and wait for a confirming signal before moving any line.

(vi) No load shall exceed the rated capacity of the pallet, trailer, or other carrier.

(vii) Towed equipment, such as but not limited to, skid pans, pallets, arches, and trailers, shall be attached to each machine or vehicle in such a manner as to allow a full 90 degree turn; to prevent overrunning of the towing machine or vehicle; and to assure that the operator is always in control of the towed equipment.

(viii) The yarding machine or vehicle, including its load, shall be operated with safe clearance from all obstructions that may create a hazard for an employee.

(ix) Each yarded tree shall be placed in a location that does not create a hazard for an employee and an orderly manner so that the trees are stable before bucking or limbing is commenced.

(6) *Loading and unloading.* (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:

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

(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.

(7) *Transport.* 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.

(8) *Storage.* 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.

(i) *Training.* (1) The employer shall provide training for each employee, including supervisors, at no cost to the employee.

(2) *Frequency.* Training shall be provided as follows:

(i) As soon as possible but not later than the effective date of this section for initial training for each current and new employee;

(ii) Prior to initial assignment for each new employee;

(iii) Whenever the employee is assigned new work tasks, tools, equipment, machines or vehicles; and

(iv) Whenever an employee demonstrates unsafe job performance.

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(3) *Content.* At a minimum, training shall consist of the following elements:

(i) Safe performance of assigned work tasks;

(ii) Safe use, operation and maintenance of tools, machines and vehicles the employee uses or operates, including emphasis on understanding and following the manufacturer's operating and maintenance instructions, warnings and precautions;

(iii) Recognition of safety and health hazards associated with the employee's specific work tasks, including the use of measures and work practices to prevent or control those hazards;

(iv) Recognition, prevention and control of other safety and health hazards in the logging industry;

(v) Procedures, practices and requirements of the employer's work site; and

(vi) The requirements of this standard.

(4) Training of an employee due to unsafe job performance, or assignment of new work tasks, tools, equipment, machines, or vehicles; may be limited to those elements in paragraph (i)(3) of this section which are relevant to the circumstances giving rise to the need for training.

(5) *Portability of training.* (i) Each current employee who has received training in the particular elements specified in paragraph (i)(3) of this section shall not be required to be retrained in those elements.

(ii) Each new employee who has received training in the particular elements specified in paragraph (i)(3) of this section shall not be required to be retrained in those elements prior to initial assignment.

(iii) The employer shall train each current and new employee in those elements for which the employee has not received training.

(iv) The employer is responsible for ensuring that each current and new employee can properly and safely perform the work tasks and operate the tools, equipment, machines, and vehicles used in their job.

(6) Each new employee and each employee who is required to be trained as specified in paragraph (i)(2) of this section, shall work under the close supervision of a designated person until the employee demonstrates to the employer the ability to safely perform their new duties independently.

(7) *First-aid training.* (i) The employer shall assure that each employee, including supervisors, receives or has received first-aid and CPR training meeting at least the requirements specified in appendix B.

(ii) The employer shall assure that each employee's first-aid and CPR training and/or certificate of training remain current.

(8) All training shall be conducted by a designated person.

(9) The employer shall assure that all training required by this section is presented in a manner that the employee is able to understand. The employer shall assure that all training materials used are appropriate in content and vocabulary to the educational level, literacy, and language skills of the employees being trained.

(10) *Certification of training.* (i) The employer shall verify compliance with paragraph (i) of this section by preparing a written certification record. The written certification record shall contain the name or other identity of the employee trained, the date(s) of the training, and the signature of the person who conducted the training or the signature of the employer. If the employer relies on training conducted prior to the employee's hiring or completed prior to the effective date of this section, the certification record shall indicate the date the employer determined the prior training was adequate.

(ii) The most recent training certification shall be maintained.

(11) *Safety and health meetings.* The employer shall hold safety and health meetings as necessary and at least each month for each employee. Safety and health meetings may be conducted individually, in crew meetings, in larger groups, or as part of other staff meetings.

(j) *Appendices.* Appendices A and B of this section are mandatory. The information contained in appendix C of this section is informational and is not intended to create any additional obligations not otherwise imposed or to detract from existing regulations.

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NOTE: In the FEDERAL REGISTER of August 9, 1995, OSHA extended the stay of the following paragraphs of §1910.266 until September 8, 1995. The remaining requirements of §1910.266, which became effective on February 9, 1995, are unaffected by the extension of the partial stay:

1. (d)(1)(v)—insofar as it requires foot protection to be chain-saw resistant.
2. (d)(1)(vii)—insofar as it required face protection.
3. (d)(2)(iii).
4. (f)(2)(iv).
5. (f)(2)(xi).
6. (f)(3)(ii).
7. (f)(3)(vii).
8. (f)(3)(viii).
9. (f)(7)(ii)—insofar as it requires parking brakes to be able to stop a moving machine.
10. (g)(1) and (g)(2) insofar as they require inspection and maintenance of employee-owned vehicles.
11. (h)(2)(vii)—insofar as it precludes backcuts at the level of the horizontal cut of the undercut when the Humboldt cutting method is used.

APPENDIX A TO §1910.266—FIRST-AID KITS (MANDATORY)

The following list sets forth the minimally acceptable number and type of first-aid supplies for first-aid kits required under paragraph (d)(2) of the logging standard. The contents of the first-aid kit listed should be adequate for small work sites, consisting of approximately two to three employees. When larger operations or multiple operations are being conducted at the same location, additional first-aid kits should be provided at the work site or additional quantities of supplies should be included in the first-aid kits:

1. Gauze pads (at least 4 × 4 inches).
2. Two large gauze pads (at least 8 × 10 inches).
3. Box adhesive bandages (band-aids).
4. One package gauze roller bandage at least 2 inches wide.
5. Two triangular bandages.
6. Wound cleaning agent such as sealed moistened towelettes.
7. Scissors.
8. At least one blanket.
9. Tweezers.
10. Adhesive tape.
11. Latex gloves.
12. Resuscitation equipment such as resuscitation bag, airway, or pocket mask.
13. Two elastic wraps.
14. Splint.
15. Directions for requesting emergency assistance.

APPENDIX B TO §1910.266—FIRST-AID AND CPR TRAINING (MANDATORY)

The following is deemed to be the minimal acceptable first-aid and CPR training program for employees engaged in logging activities.

First-aid and CPR training shall be conducted using the conventional methods of training such as lecture, demonstration, practical exercise and examination (both written and practical). The length of training must be sufficient to assure that trainees understand the concepts of first aid and can demonstrate their ability to perform the various procedures contained in the outline below.

At a minimum, first-aid and CPR training shall consist of the following:

1. The definition of first aid.
2. Legal issues of applying first aid (Good Samaritan Laws).
3. Basic anatomy.
4. Patient assessment and first aid for the following:
a. Respiratory arrest.
b. Cardiac arrest.
c. Hemorrhage.
d. Lacerations/abrasions.
e. Amputations.
f. Musculoskeletal injuries.
g. Shock.
h. Eye injuries.
i. Burns.
j. Loss of consciousness.
k. Extreme temperature exposure (hypothermia/hyperthermia)
l. Paralysis
m. Poisoning.
n. Loss of mental functioning (psychosis/hallucinations, etc.). Artificial ventilation.
o. Drug overdose.
5. CPR.
6. Application of dressings and slings.
7. Treatment of strains, sprains, and fractures.
8. Immobilization of injured persons.
9. Handling and transporting injured persons.
10. Treatment of bites, stings, or contact with poisonous plants or animals.

APPENDIX C TO §1910.266—COMPARABLE ISO STANDARDS (NON-MANDATORY)

The following International Labor Organization (ISO) standards are comparable to the corresponding Society of Automotive Engineers (Standards that are referenced in this standard.)

Utilization of the ISO standards in lieu of the corresponding SAE standards should result in a machine that meets the OSHA standard.

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SAE standard	ISO standard	Subject
SAE J1040	ISO 3471–1	Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry and Mining Machines.
SAE J397	ISO 3164	Deflection Limiting Volume—ROPS/FOPS Laboratory Evaluation.
SAE J231	ISO 3449	Minimum Performance Criteria for Falling Object Protective Structures (FOPS).
SAE J386	ISO 6683	Operator Restraint Systems for Off-Road Work Machines.
SAE J185	ISO 2897	Access Systems for Off-Road Machines.

[59 FR 51741, Oct. 12, 1994, as amended at 60 FR 7449, Feb. 8, 1995; 60 FR 40458, Aug. 9, 1996; 60 FR 47035, Sept. 8, 1995; 61 FR 9241, 9242, Mar. 7, 1996; 69 FR 18803, Apr. 9, 2004; 71 FR 16673, Apr. 3, 2006; 79 FR 37190, July 1, 2014]

§ 1910.268 Telecommunications.

(a) *Application.* (1) This section sets forth safety and health standards that apply to the work conditions, practices, means, methods, operations, installations and processes performed at telecommunications centers and at telecommunications field installations, which are located outdoors or in building spaces used for such field installations. *Center* work includes the installation, operation, maintenance, rearrangement, and removal of communications equipment and other associated equipment in telecommunications switching centers. *Field* work includes the installation, operation, maintenance, rearrangement, and removal of conductors and other equipment used for signal or communication service, and of their supporting or containing structures, overhead or underground, on public or private rights of way, including buildings or other structures.

(2) These standards do not apply: (i) To construction work, as defined in §1910.12, nor (ii) to installations under the exclusive control of electric utilities used for the purpose of communications or metering, or for generation, control, transformation, transmission, and distribution of electric energy, which are located in buildings used exclusively by the electric utilities for such purposes, or located outdoors on property owned or leased by the electric utilities or on public highways, streets, roads, etc., or outdoors by established rights on private property.

(3) Operations or conditions not specifically covered by this section are subject to all the applicable standards contained in this part 1910. See §1910.5(c). Operations which involve construction work, as defined in §1910.12 are subject to all the applicable standards contained in part 1926 of this chapter.

(b) *General*—(1) *Buildings containing telecommunications centers*—(i) *Illumination.* Lighting in telecommunication centers shall be provided in an adequate amount such that continuing work operations, routine observations, and the passage of employees can be carried out in a safe and healthful manner. Certain specific tasks in centers, such as splicing cable and the maintenance and repair of equipment frame lineups, may require a higher level of illumination. In such cases, the employer shall install permanent lighting or portable supplemental lighting to attain a higher level of illumination shall be provided as needed to permit safe performance of the required task.

(ii) *Working surfaces.* Guard rails and toe boards may be omitted on distribution frame mezzanine platforms to permit access to equipment. This exemption applies only on the side or sides of the platform facing the frames and only on those portions of the platform adjacent to equipped frames.

(iii) *Working spaces.* Maintenance aisles, or wiring aisles, between equipment frame lineups are working spaces and are not an exit route for purposes of 29 CFR 1910.34.

(iv) *Special doors.* When blastproof or power actuated doors are installed in specially designed hardsite security buildings and spaces, they shall be designed and installed so that they can be used as a means of egress in emergencies.

(v) *Equipment, machinery and machine guarding.* When power plant machinery in telecommunications centers is operated with commutators and couplings uncovered, the adjacent housing shall

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