

**WAC 296-45-67503 Definitions.** ~~((+1))~~ **"Approved rubber gloves."** Rubber insulating gloves used for protection of electrical workers from electric shock while working on energized conductors and equipment.

**"Cargo hooks."** The cargo hook is the FAA approved primary attachment means to the aircraft. A device attached or suspended from an aircraft which is used to connect an external load to the aircraft through direct couplings or by lead lines. This unit has both ~~((mechanical and electrical locking/unlocking means))~~ **primary and secondary release mechanisms.**

~~((+2))~~ **"Designated employees."** Those employees selected or designated by the employer to work under or near helicopters who have first been instructed in hooking, unhooking, guiding and securing the load, including the signalperson, all of whom have been instructed in the hazards of helicopter work and who know the provisions of this section.

~~((+3))~~ **"Downwash."** A down and outward air column from the main rotor system.

~~((+4))~~ **"Ground personnel or crew."** Those employees who are physically and mentally capable, who are familiar with the hazards of helicopter use in power distribution and transmission line work, and who know these rules and the methods of operation.

~~((+5))~~ **"Helicopter," "helicopter crane," and "rotorcraft."** ~~((Those aircraft whose support in the air is derived solely from the reaction of a stream of air driven downward by propellers revolving around a vertical axis, which are designed for and capable of carrying external loads.))~~ **A heavier-than-air aircraft that depends principally for its support in flight on the lift generated by one or more rotors.** The use of the word helicopter in these rules shall also mean helicopter crane, rotorcraft, or similar device.

~~((+6))~~ **"Helicopter service provider."** Entity that holds the appropriate FAA operating certification and provides helicopter support services.

**"Hooking and unhooking."** ~~((That))~~ The process by which an external load is either attached to or ~~((released))~~ **detached** from the ~~((cargo hook))~~ **helicopter hook or sling line.**

~~((+7))~~ **"Pilot in command, pilot or PIC."** The person who:  
• **Has the final authority and responsibility for the operation and safety of the flight;**  
• **Has been designated as pilot in command before or during the flight; and**  
• **Holds the appropriate category, class and type rating for the conduct of the flight if applicable.**

**"Positive guide system."** A system or method of installing a load into position so that the load is capable of being released from the helicopter without being otherwise secured so that the load will remain in position permanently or until otherwise secured by physical means.

~~((+8))~~ **"Rotors."** That system of blades which rotates or revolves to supply lift or direction to the rotorcraft.

~~((+9))~~ ~~**"Approved rubber gloves."**~~ Rubber insulating gloves used for protection of electrical workers from electric shock while working on energized conductors and equipment.

~~(10)~~) **"Signalperson."** That member of the ground crew that is designated by an employer to direct, signal and otherwise communicate with the operator of the helicopter.

~~((11))~~) **"Sling line."** A strap, chain, rope or the like used to securely hold something being lifted, lowered, carried or otherwise suspended.

~~((12))~~) **"Sock line."** A rope(s), cable(s) or similar line(s) ~~((which))~~ that is used to pull a conductor line or other wire from a reel or to remove existing strung conductors from poles or towers.

~~((13))~~) **"Static charge."** A stationary charge of electricity.

~~((14))~~) **"Tag line."** A rope or similar device used to guide or control the direction or movement of a load.

#### NEW SECTION

**WAC 296-45-67504 Operating certification.** The helicopter service provider must hold appropriate certification and have a current "FAA Operating Certificate" for the category of operation being performed. (Reference 14 C.F.R. Parts 133, 135, and 137 - Contact the local Flight Standards District Office (FSDO) for assistance.)

#### NEW SECTION

**WAC 296-45-67506 Personnel.** (1) All personnel must be physically and mentally able and qualified to perform the work to which they are assigned, including being knowledgeable in these rules.

(2) There must be a sufficient number of qualified ground personnel to safely guide, secure, hook and unhook the load.

(3) No employee shall perform or be ordered or assigned to perform any activity for which they are not trained, qualified, and competent or which they may compromise their safety or the safety of others.

Note: Applicable training requirements in WAC 296-45-065 shall be followed.

#### NEW SECTION

**WAC 296-45-67508 Hazard analysis and job briefing.** (1) Before the commencement of any construction, maintenance, or lifting activity using a helicopter, a job hazard analysis (JHA) must be conducted, which, at a minimum, must:

- (a) Define the core tasks;
- (b) Identify specific hazards;
- (c) Identify mission specific tasks;
- (d) Describe procedures or controls used to safely manage or mitigate the hazards;
- (e) Describe the communication procedure to be used with the crew;
- (f) Discuss fatigue, and methods to eliminate or mitigate it;

- (g) Specify minimum approach distances (MAD);
  - (h) Describe a site specific emergency action plan.
  - (2) A site specific job briefing must be held each day construction, maintenance, or lifting activities using a helicopter are performed. The daily job briefing at a minimum must:
    - (a) Summarize or recap the content of the JHA as applicable to the day's duties;
    - (b) Communicate any site specific hazards not identified in the JHA and provide mitigation for those hazards;
    - (c) Identify or establish roles for each person who will be interfacing with the aircraft or its load;
    - (d) Describe the communication procedure to be used with the crew;
    - (e) Specify minimum approach distances (MAD) from energized electrical lines and equipment in the work area;
    - (f) Describe the applicable sections of the site specific emergency action plan, such as the locations of first aid equipment and rescue gear.
  - (3) An additional job briefing must be held immediately if working conditions change during the course of a job. Working conditions would include weather, wind, and visibility.
- During the job briefing all affected employees and others, including signalpersons, ground workers, pilot(s), must be advised of the hazards including a change of operation, if needed.

AMENDATORY SECTION (Amending Order 76-38, filed 12/30/76)

**WAC 296-45-67513 Personal protective equipment (PPE).** Personal protective equipment when working on, under or in the near vicinity of helicopters:

- (1) All employees shall wear eye protection of such design as to prevent the likelihood of dust or other substances from contacting the eye(s) of employees.
- (2) All employees shall wear ANSI-approved hard hats ((which)) or helmets for electrical work specific to work associated with helicopter operations that shall be secured on the employee's head by a chin-strap or other suitable means.
- (3) The employer must perform and document a hazard assessment to identify and determine the appropriate PPE for the work being performed, the location and site and/or equipment.

AMENDATORY SECTION (Amending Order 76-38, filed 12/30/76)

**WAC 296-45-67519 ((Housekeeping-)) Landing zones.** (1) When establishing the landing zone, the following items shall be considered:

- Size and type of helicopter;
- Suitability of the planned activity;
- Physical barriers or obstructions;
- Helicopter touchdown area and congestion in the area.

(2) All helicopter landing, loading and unloading areas shall be maintained in a neat and orderly fashion so as to reduce the likeli-

hood of flying materials, tripping, or other hazards attendant to the work being performed.

AMENDATORY SECTION (Amending WSR 94-20-057, filed 9/30/94, effective 11/20/94)

**WAC 296-45-67521 ((Operator's)) Pilot's responsibility.** (1) The pilot and employer must ensure the pilot is properly rested and fit for duty.

(2) The helicopter ((operator)) pilot shall be responsible for the size, weight and manner in which loads are connected to the helicopter.

((+2)) (3) No load shall be made if the helicopter ((operator)) pilot believes the lift cannot safely be performed. The employer shall make certain that the ((operator)) pilot of the helicopter is able to freely exercise their prerogative and judgment as to safe operation of the helicopter itself concerning size, weight and manner by which loads are connected.

((+3)) (4) No employee shall work on, under, near or in conjunction with a helicopter whose operation does not correspond with the foregoing provisions.

(5) The pilot shall possess the appropriate ratings for the aircraft and shall be competent to safely conduct the assigned tasks. The pilot shall have the final authority and is solely responsible for the safe operation of the helicopter load at all times.

NEW SECTION

**WAC 296-45-67522 Cargo hooks.** (1) All cargo hooks shall have a primary and secondary release mechanism designed and installed as to prevent inadvertent operation. The hooks primary and secondary release shall be tested prior to each day's operation to determine that the release functions properly.

(2) No employee shall be permitted to work under a hovering helicopter(s) unless the cargo hooks used comply with Federal Aviation Administration regulations governing such hooks.

AMENDATORY SECTION (Amending Order 76-38, filed 12/30/76)

**WAC 296-45-67523 Hooking and unhooking loads.** ((No employee shall perform work under hovering helicopters: Provided, That qualified and capable employees may function under such craft for that limited period of time necessary to guide, secure, hook or unhook the loads. When guiding, securing, hooking or unhooking the load at elevated positions, employees shall be assisted by and use a positive positioning guide system. When under hovering helicopters at any other location, the employee shall have a safe means of ingress and egress, including readily available escape route or routes in the event of an

~~emergency. No other work or work-related activity other than the~~  
~~mentioned shall be permitted under hovering helicopters. Bolting~~  
~~of or otherwise permanently securing the structures is prohibited un-~~  
~~der hovering helicopters except that in the event of an unforeseen~~  
~~contingency of an emergency nature which represents a substantial haz-~~  
~~ard to life or property, an employee may do such work as is necessary~~  
~~to preserve life or protect substantial property.)~~ (1) Work performed  
at an elevated position and directly under hovering helicopters shall  
be performed only by qualified and capable employees.

(a) Work shall be limited to the minimum time necessary to guide,  
secure, hook or unhook the loads, provided that only a single point of  
attachment is required to secure the load.

(b) When an employee is working from the ground under hovering  
helicopters, the employee shall have a safe means of ingress and  
egress at all times, including a readily available escape route or  
routes in the event of an emergency.

(2) Except as specifically permitted under WAC 296-45-675 through  
296-45-67545, no other work or work-related activity shall be permit-  
ted under hovering helicopters.

(3) Positive guide systems shall be used for the placement of  
large segments of primary tower structure and shall enable the heavy  
lift helicopter to temporarily secure and release the load. Bolting of  
or otherwise permanently securing the structures is prohibited under  
hovering helicopters except that in the event of an unforeseen contin-  
gency of an emergency nature which represents a substantial hazard to  
life or property, an employee may do such work as is necessary to pre-  
serve life or protect substantial property.

Note: This does not apply to assembly and erection of steel monopole construction.

AMENDATORY SECTION (Amending Order 76-38, filed 12/30/76)

**WAC 296-45-67525 Static charge.** All loads shall be grounded or  
bonded with a ((grounding)) device capable of discharging either the  
actual or potential static charge before ground personnel either touch  
or come close enough to touch the suspended load ((, or protective rub-  
ber gloves shall be worn by all ground personnel either touching the  
suspended load or who are likely to touch the load)).

AMENDATORY SECTION (Amending WSR 94-20-057, filed 9/30/94, effective  
11/20/94)

**WAC 296-45-67527 ((Load permitted.)) Line stringing.** (1) Weight  
of the external load shall not exceed the manufacturer's load limit.

(2) ((A helicopter shall not pull any cable, rope or similar line  
which is at any point attached to a fixed object other than the heli-  
copter itself. Helicopters may pull a free-wheeling sock line so long  
as the end of the sock line is not tied to a reel, truck, or other  
fixed object. Such line cannot be tied to or otherwise secured to the  
roll-off reel other than by having been wrapped around such reel.))  
Each helicopter operator utilized in line stringing shall be author-

ized by the Federal Aviation Administration, Part 133, Class C Operations.

(3) All line stringing operations shall be conducted in accordance with the following requirements:

(a) Stringing tension method shall enable a consistent positive control of the cable, rope, or similar lines at all times during pulling operations;

(b) During all pulling operations, the helicopter pilot shall maintain an aircraft orientation that allows the pilot to maintain constant visibility in both directions on line;

(c) No pulling operation shall be conducted at a ground speed greater than fifteen mph;

(d) When pulling from the aircraft belly hook attachment point, a ballast weight of a minimum three hundred pounds shall be utilized;

(e) At no time during the pulling operation shall the load line that is attached to helicopter's belly hook attachment point exceed a thirty degree angle from vertical.

Note: Subsection (3)(d) and (e) does not apply when pulling from the helicopter's approved side pull attachment point.

(4) A helicopter shall not pull any cable, rope, or similar line which is at any point attached to a fixed object other than the helicopter itself. Helicopters may pull a "free-wheeling" or "pay-out" of the cable, rope, or similar line so long as the end is not tied to a truck or fixed object other than the reel itself.

AMENDATORY SECTION (Amending Order 76-38, filed 12/30/76)

**WAC 296-45-67529 Visibility.** Employees shall keep clear of and outside the downwash of the helicopters except as necessary to perform a permitted activity. Where reasonably (~~(practicable)~~) practical, reduced vision of the operator and ground crew shall be eliminated.

AMENDATORY SECTION (Amending WSR 94-20-057, filed 9/30/94, effective 11/20/94)

**WAC 296-45-67531 (~~(Signal systems-)~~) Communication.** (1) Communication (~~(shall)~~) must be maintained between the air crew and ground personnel at all times (~~(. Such signal systems shall be understood by the air crew and the ground crew, including signalpersons, prior to the hoisting of any load)~~) by a designated and qualified signalperson. There (~~(shall)~~) must be a constant (~~(radio)~~), open line of communication using radios or head and hand signals (~~(used. The signalperson shall have the sole and exclusive function during periods of loading and unloading of signaling and maintaining communications with the pilot. The signalperson shall be so dressed as to make their appearance distinguishable from other members of the ground crew by the operator of the craft. This may be by way of orange-colored gloves, vest, or other wearing apparel. In addition, the leadworker and one top person shall also have an operating transmitter and receiver.~~

~~(2) Designated)~~).

(2)Signal systems must be understood by the air crew and the ground crew, including signalpersons, prior to the hoisting of any load.

(3)Signaling and maintaining communications with the pilot will be exclusive to the designated signalperson during periods of loading and unloading. The signalperson must be distinguishable from other members of the ground crew by the pilot of the aircraft. This may be by way of orange-colored gloves, vest, or other apparel.

(4)The lead worker and one top person must also have an operating transmitter and receiver.

(5)Authorized and qualified employees may come within 50 feet of the helicopter when the rotor blades are turning, but no closer, other than to enter the ((eraft)) aircraft or to hook or unhook the load or do other essential functions. Other employee(s) shall not come closer than 100 feet of the ((eraft)) aircraft when it is operating.

(6)The signals between the signalperson and the operator of the helicopter shall be those submitted to the FAA for the particular job. When hand signals are to be used, the qualified worker must utilize a visually enhanced hard hat or helmet with clear markings to indicate the desired movement. Any signals other than up/down or in/out will require the use of hand signals.

(7)Should there occur a change in the hazards, method of performing the job, signals to be used, or other operating conditions during the course of any particular job, a conference shall immediately be held at which time all affected employees and others (including signalpersons, ground workers, and pilots) will be advised of such hazards or change of operation. No employee shall be permitted to work unless such employee and others fully understand any changes that have taken place.

AMENDATORY SECTION (Amending Order 76-38, filed 12/30/76)

**WAC 296-45-67533 ((Approaching the)) Helicopter operation.** (1) Whenever approaching or leaving a helicopter with blades rotating, all employees ((shall)) must remain in full view of the pilot ((or operator)) and remain in a crouched position ((if)) while within 50 feet of the helicopter. No employee ((shall)) can approach the rear of the helicopter unless directly authorized and directed by the ((operator)) pilot of such craft ((to be there at that time)). All employees when operating or working within 50 feet of the helicopter with blades turning are subject to the direction of the helicopter ((operator. No employee shall enter or leave the helicopter unless and until the place at which they enter or leave such craft is large enough for the helicopter itself to land)) pilot.

(2)All materials and equipment loaded in the aircraft shall be properly secured for flight.

(3)Long objects, such as shovels and hot sticks, shall be carried horizontally and below the waist to avoid contact with the aircraft rotor blades.

(4)The pilot shall ensure that all loads are safely secured to the helicopter, or in cargo baskets, and properly loaded with regard to weight and balance.

(5)Never throw anything while loading and unloading the helicopter. Thrown items may come in contact with the aircraft rotor blade,

causing damage to the aircraft and possible injury to ground personnel.

(6) While in the helicopter, safety belts must remain fastened at all times except when the pilot instructs otherwise or while entering or leaving the helicopter.

(7) Smoking in the helicopter is prohibited at all times.

(8) No employee shall ride in or work under or near a helicopter with less than twenty minutes reserve fuel.

(9) No employee shall have sharp objects in their pocket or unsecured while sitting in or on the helicopter.

(10) No employee shall touch any switch, knob, instrument, or other control device in the cockpit unless specifically directed by the pilot.

(11) No employee shall obscure or otherwise obstruct the pilot's ability to visually see the instruments or flight path during flight or operation.

(12) No employee shall attempt to slow or stop the rotorcraft blades.

#### NEW SECTION

**WAC 296-45-67536 Helicopter work tasks.** (1) Aerial hover transfer.

(a) Full body harnesses, lanyards, hardware, and attachment points must meet the requirements in ANSI Z359.1-2007.

(b) Any employees transferring from a helicopter to a structure/conductor must wear a full body harness and lanyard fixed to an approved attachment point on the helicopter, structure/conductor. An ANSI-approved device that allows the worker to be attached simultaneously to the helicopter and the structure/conductor shall be used until the transfer is complete.

(c) Fall protection must be established and maintained one hundred percent during the entire time the employee is transferring from the helicopter to the structure/conductor.

(2) Human external cargo (HEC).

(a) The sling/vertical suspension system (human external cargo or HEC) is a vertical system suspended from the helicopter cargo hook. The sling system will comply with all governmental requirements (e.g., 14 C.F.R. Part 133, Class B or D - External Load.) For Class D operations the sling system will also comply with 14 C.F.R. 27.865 or 29.865.

(b) Helicopter operations involving HEC shall incorporate the use of a secondary safety device, in addition to the helicopter's primary attachment means, to prevent the inadvertent release of the load. This device shall remain jettison-able in accordance with Class B load requirements.

(i) All lines utilized for HEC operations shall be dedicated for HEC and shall not be used for transporting cargo.

(ii) HEC lines shall not be less than 10:1 safety ratio between the rated breaking strength and the working load.

(iii) All harnesses utilized for helicopter short-haul operations must meet the ANSI Z359.1-2007 standards for class III (full body) harnesses and must be equipped with both dorsal and sternal D rings.

(iv) All suspension harnesses used for HEC must be adjusted to the user. The harness must be designed to prevent suspension trauma or equipped with an orthostatic shock relief device. Such devices must be deployed and used if an employee has been in suspension longer than five minutes.

(c) External platform and skid operation. If a platform system is used to transport crews or where a crew member performs work from the platform system and all aircraft attachment points shall comply with applicable FAA regulations and requirements. All platform operations shall be conducted in accordance with the 14 C.F.R. Part 133, Class A - External Load. Flight and hovering capabilities of the helicopter must not be adversely affected by the design of the platform. The platform must not affect the auto rotation and emergency capabilities of the helicopter. The platform and loads may affect the lateral and longitudinal CG weight and balance of the helicopter in flight. An engineered counter-balance system must be used if the platform exceeds the lateral CG limits of the manufacturer's specifications for the helicopter which will ensure stability.

(3) External cargo sling loads. Helicopter longline support operations (cargo operations) shall only be performed by qualified, competent and trained personnel. All operations shall be conducted in accordance with applicable Federal Aviation Administration regulations.

AMENDATORY SECTION (Amending Order 76-38, filed 12/30/76)

**WAC 296-45-67537 Sling and rigging.** (1) The pilot is responsible for the integrity of the rigging for any external load and must ensure safe delivery of the cargo by inspecting and monitoring the security of the rigging throughout the operation. Prior to operations, the pilot must check the condition and application of all rigging gear to ensure serviceability. Prior to commencing operations, determine the complete rigging requirements, including slings and taglines.

(2) All personnel involved with rigging activities must receive appropriate rigging training and show proficiency specific to helicopter operations and the work or tasks being performed.

(3) The slings used for the external load (~~shall~~) must be inspected each day before use. Slings must be inspected by an employee designated (~~as rigger, who shall be capable of properly inspecting the rigging, shall inspect the sling.~~

~~(2)~~, trained and qualified as a rigger.

(4) No sling shall be used unless it has a properly marked minimum tensile strength of (~~four~~) five times the load which will be carried or is being carried.

(~~(3)~~) (a) No sling shall be used unless upon inspection it is determined to be in good condition and capable of the work which is to be performed and properly marked.

(b) Loads must be properly slung so that there will be no slippage or shifting of the load and so that the load will not accidentally be dislodged from the helicopter.

(c) In an energized environment helicopter load lines must be comprised of nonconductive materials which are the appropriate weight, strength, and length to prevent the line from being lifted and entangled into the aircraft rotor system.

(d) Pressed sleeves, wedged eyes, or equivalent means shall be used for all suspended loads utilizing wire rope. All eyes on synthetic line shall be produced by the lines manufacturer or a certified splicer for the specific type of line.

AMENDATORY SECTION (Amending WSR 01-17-033, filed 8/8/01, effective 9/1/01)

**WAC 296-45-67545 Refueling operations.** (1) ~~((Under no circumstances shall the))~~ Refueling of any ~~((type))~~ helicopter with either aviation gasoline or Jet B (Turbine) type fuel ~~((be permitted))~~ shall be prohibited while the engines are running.

(2) Fueling of helicopters using Jet A (Turbine-Kerosene) type fuel ~~((may be refueled))~~ is allowed with engines running ~~((provided the following criteria is met:))~~.

(3) All helicopter fueling must comply with the following:

(a) No unauthorized persons shall be allowed within fifty feet of the refueling operation or fueling equipment.

(b) A minimum of one thirty-pound fire extinguisher, or a combination of same, good for class A, B and C fires, shall be provided within one hundred feet on the upwind side of the refueling operation.

Note: For additional requirements relating to portable fire extinguishers see WAC 296-800-300.

(c) All fueling personnel shall be thoroughly trained in the refueling operation and in the use of the available fire extinguishing equipment they may be expected to utilize.

(d) There ~~((shall))~~ must be no smoking, open flames, exposed flame heaters, flare pots, or open flame lights within fifty feet of the refueling area or fueling equipment. ~~((All entrances to))~~ The refueling area ~~((shall))~~ or the fuel truck must be posted with "NO SMOKING" signs.

(e) ~~((Due to the numerous causes of static electricity, it shall be considered present at all times. Prior to starting refueling operations, the fueling equipment and the helicopter shall be grounded and the fueling nozzle shall be electrically bonded to the helicopter. The use of conductive hose shall not be accepted to accomplish this bonding. All grounding and bonding connections shall be electrically and mechanically firm, to clean unpainted metal parts.))~~ Prior to making any fueling connection to the aircraft, the fueling equipment shall be bonded to the aircraft by use of a cable, thus providing a conductive path to equalize the potential between the fueling equipment and the aircraft. The bond shall be maintained until fueling connections have been removed, thus allowing separated charges that could be generated during the fueling operation to reunite. Grounding during aircraft fueling shall not be permitted.

(f) To control spills, fuel shall be pumped either by hand or power. Pouring or gravity flow shall not be permitted. Self-closing nozzles or deadman controls shall be used and shall not be blocked open. Nozzles shall not be dragged along the ground.

(g) In case of a spill, the fueling operation shall be immediately stopped until such time as the person-in-charge determines that it is safe to resume the refueling operation.

~~((h) When ambient temperatures have been in the one hundred degrees Fahrenheit range for an extended period of time, all refueling~~

~~of helicopters with the engines running shall be suspended until such time as conditions become suitable to resume refueling with the engines running.~~

~~(3))~~ (4) Helicopters with their engines stopped being refueled with aviation gasoline or Jet B (Turbine) type fuel, shall also comply with subsection ~~((2))~~ (3)(a) through (g) of this section.

REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 296-45-67505	Briefing.
WAC 296-45-67507	Signals.
WAC 296-45-67509	Slings and tag lines.
WAC 296-45-67511	Cargo hooks.
WAC 296-45-67535	In helicopter.
WAC 296-45-67539	Personnel.
WAC 296-45-67543	General.