NEW SECTION

WAC 296-807-099 Definitions.

Abrasive wheel. A grinding tool consisting of bonded abrasive grains. This includes diamond and reinforced wheels.

Blind hole. A hole drilled in an object, such as an abrasive wheel, that does not go all the way through.

Blotter. A compressible disc or washer, usually of blotting paper, plastic, cardboard, or gasket material, that is used between the wheel and the flanges to evenly distribute flange pressure on the wheel.

Cone and plug wheels (Types 16, 17, 18, 18R, and 19). Abrasive wheels manufactured with blind hole threaded bushings. They may be used on all surfaces except the flat mounting surface (D). Specific characteristics of the different cone and plug wheels are:

(a) Type 16 cones have a curved side with a nose radius;

(b) Type 17 cones have straight sides with or without a nose radius;

(c) Type 18 and 18R plug wheels are cylindrical in shape with either a square or curved grinding end;

(d) Type 19 cone wheels are a combination of cone and plug shapes.

Cutting-off wheels. Abrasive wheels used to cut material such as masonry, pipe, etc.

Designated person. A person selected or assigned by the employer or the employer's representative as competent to perform specific duties.

Discharge opening. An opening in a mower housing for discharging grass.

Flanges. Collars, discs, or plates between or against which wheels are mounted. There are four types of flanges:

(a) Adaptor;

(b) Sleeve;

(c) Straight relieved;

(d) Straight unrelieved.

Grass catcher. Parts or a combination of parts to collect grass clippings or debris.

Guard (abrasive wheels). An enclosure designed to restrain the pieces of an abrasive wheel and furnish protection to the operator if the wheel is broken during operation.

Guard. A part or assembly to prevent accidental contact with hazardous machine parts or to protect persons from other hazards created by the machinery.

Inorganic bonded wheel. Abrasive wheels that are bonded by means of inorganic material such as clay, glass, porcelain, sodium silicate, magnesium oxychloride, or metal.

Jack. A portable hand- or power-operated mechanism for lifting, lowering, or moving horizontally a load by applying a pushing force.

Modified Types 6 and 11 wheels (terrazzo). Similar to Type 6 "straight cup" wheels and Type 11 "flaring cup" wheels except for the bottom of the cup. The bottom of the cup is flat in Type 6 and 11 wheels. The modified wheels have bottoms that are sloped downwards towards the mounting hole. These modified wheels need to be mounted using a special tapered flange furnished by the tool manufacturer. These wheels are used in the terrazzo trade.

Mounted wheels. Bonded abrasive wheels of various shapes, usually two inches diameter or smaller, that are secured to plain or threaded steel mandrels.

Normal service (jacks). Raising or lowering axial loads that are eighty-five percent or less of the rated load under controlled conditions.

Organic bonded wheels. Abrasive wheels that are bonded by means of organic material such as resin, rubber, shellac, or other similar bonding agent.

Rated load. The maximum load that the jack is designed to lift or support.

Reinforced wheels. Organic bonded abrasive wheels which have webbing, fabric or filament to provide resistance to complete breaking of the wheel should it become cracked or damaged.

Terrazzo. A material of stone chips, such as marble, set in mortar and polished.

Threaded hole wheels. Abrasive wheels that have one central threaded bushing, securely anchored in place. They are mounted by being screwed onto a threaded machine spindle so that the wheel back seats firmly against an unrelieved flat back flange.

Tuck pointing wheels. Tuck pointing abrasive wheels are Type 1 reinforced, organic bonded wheels and have diameter, thickness and hole size dimensions. They are used to remove cement, mortar, or other nonmetallic jointing material.

Type 1 wheel. An abrasive wheel shaped like a disc with a mounting hole in the middle. Sometimes called a "straight wheel." It has diameter (D), thickness (T), and hole size (H) dimensions. Grinding is normally done on the periphery (outside curve) of the wheel (T dimension). Can be used for grinding, cutting-off, and tuck pointing.

Type 2 wheel. An abrasive wheel shaped like an open-ended, hollow cylinder. Sometimes called a cylinder wheel. It has diameter (measured from the outer wall of the cylinder), wheel thickness (height of the cylinder), and rim thickness (thickness of the cylinder wall). Grinding is done on the end of the cylinder (rim thickness dimension).

Type 6 wheel. An abrasive wheel shaped like a straight-sided cup or bowl with a mounting hole in the bottom of the cup. Sometimes called a "cup wheel." It has diameter (D), thickness (T), hole size (H), rim thickness (W), and back thickness (E) dimensions. Grinding is normally done on the cup rim (W dimension).

Type 11 wheel. An abrasive wheel shaped like a cup or bowl with a mounting hole in the bottom of the cup. The sides of the cup are not straight-sided but are angled outward. Sometimes called a "flaring cup wheel" since the sides are "flared" out. It has double diameter dimensions (top D and bottom J). It also has thickness (T), hole size (H), rim thickness (W), and back thickness (E) dimensions. Grinding is normally done on the cup rim (W dimension).

Type 16, 17, 18, 18R, and 19 wheels. See cone and plug wheels.

Type 27 wheel. An abrasive wheel similar to a Type 1 wheel, but the center of the wheel around the mounting hole is pushed back (depressed). Sometimes called a "depressed center" wheel. It has diameter (D), thickness (U) and hole size (H) dimensions. The depressed center allows grinding on the flat surface of the wheel without interference from the flange or mounting hardware.

Type 27A cutting-off wheel. Similar to a Type 27 wheel. Specifically designed for use on cutting-off machines.

Type 28 wheel. An abrasive wheel similar to a Type 27 wheel, but the face of the wheel is angled upward and away from the mounting

hole. The face of a Type 27 wheel is flat and perpendicular to the mounting hole. A Type 28 wheel is also called a "depressed center" wheel. It has diameter (D), thickness (U), and hole size (H) dimensions. The depressed center allows grinding without interference from the mounting. A Type 28 wheel has a saucer-shaped grinding rim and is designed for corner grinding and side grinding.

Type 29 wheel. An abrasive wheel that has reversed, saucer-shaped grinding rims (similar to a partially opened umbrella).

AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-807-100 Scope. This chapter applies to the tools and equipment shown in Table 1, Scope of this chapter.

Table 1
Scope of this Chapter

This section:	Applies to:
110 Switches (controls)	Hand-held portable power tools.
120 Portable circular saws	Hand-held portable circular saws.
130 Portable belt sanding machines	Hand-held portable belt sanding machines.
140 Compressed air tools	Hand-held portable compressed air powered tools. It also applies to airhose and plastic pipe used to supply compressed air to these tools.
150 Powder actuating fastening systems	Powder actuated fastening systems designed to use the expanding gases from a powder load to propel a stud, pin, fastener, or other object into hard structural material.
160 Power lawnmowers	Consumer and commercial power lawnmowers.
170 Jacks	Portable hand- or power-operated: • Hydraulic jacks • Mechanical ratchet jacks • Mechanical screw jacks.
180 Portable tools using abrasive wheels	Portable tools using abrasive wheels.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-110 Switches (controls).
Summary((:))
Your responsibility:

Make sure hand-held portable power tools have safe switches (controls).

((~~**Exemption:**~~
~~WAC 296-807-110 does not apply to:~~
~~• Concrete vibrators~~
~~• Concrete breakers~~
~~• Powered tampers~~
~~• Jack hammers~~
~~• Rock drills~~
~~• Garden appliances~~
~~• Household and kitchen appliances~~
~~• Personal care appliances~~
~~• Medical or dental equipment~~
~~• Fixed machinery.~~))

EXEMPTION: WAC 296-807-110 does not apply to:
Concrete vibrators
Powered tampers
Rock drills
Household and kitchen appliances
Medical or dental equipment
Concrete breakers
Jack hammers
Garden appliances
Personal care appliances
Fixed machinery

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-11005 Make sure switches are safe. ((~~**You must:**~~))

(1) You must make sure the operating switch is located in a position that makes it difficult to accidentally operate the tool.

(2) You must use the correct operating switch.

((•)) (a) Make sure hand-held gasoline-powered chain saws have a constant pressure throttle control that will shut off power to the chain when the pressure is released.

((•)) (b) Use a constant pressure switch that will shut off the power when the switch is released to turn on or operate any hand-held power tool.

Exemptions:

((•)) Some tools can use a lock-on feature with the constant pressure switch if the lock-on feature can be turned off with a single motion of the same finger(s) that turned it on. You can use a lock-on feature with these hand-held tools:

((–)) 1. Drills;

((–)) 2. Tappers;

((–)) 3. Fastener drivers;

((–)) 4. Grinders using a wheel greater than two inches in diameter;

((–)) 5. Disc sanders;

((–)) 6. Belt sanders;

((–)) 7. Reciprocating saws;

((–)) 8. Saber, scroll and jig saws using a blade with a shank width greater than one-quarter inch;

((–)) 9. Other similarly operating powered tools.

((•)) **Exemptions:**

You can use a positive "on-off" switch with these hand-held tools:

((–)) 1. Platen sanders;

((–)) 2. Grinders using a wheel two inches or less in diameter;

((–)) 3. Routers;

((–)) 4. Planers;

((–)) 5. Laminate trimmers;

((–)) 6. Nibblers;

((–)) 7. Shears;

((–)) 8. Saber, scroll, and jig saws using a blade with a shank width of one-quarter inch (± .05 inch) or less.

Note: The shank width of saber, scroll and jig saw blades is measured at the narrowest point on the blade shank.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-12005 Make sure portable circular saws are safe to use. ((~~You must:~~))

(1) You must use a constant pressure switch to turn on or operate any circular saw using a blade that has a diameter greater than two inches.

(2) You must remove cracked saws and saw blades from service.

(3) You must make sure power driven circular saws that have a blade diameter larger than two inches have guards above and below the base plate (shoe) as listed in Table 2, Portable circular saw guarding requirements.

Table 2
Portable Circular Saw Guarding Requirements

Upper Guard	Lower Guard
Covers the blade to the depth of the teeth, except for the minimum arc necessary to allow the base to tilt for bevel cuts.	(1) Covers the blade to the depth of the teeth, except for the minimum arc necessary to allow proper: ((•)) (a) Retraction of the guard; ((•)) (b) Contact with the work. (2) Automatically and instantly returns to the position covering the blade when the saw is withdrawn from contact with the work.

((~~Exemption:~~)) EXEMPTION: Guarding requirements in subsection (3) of this section do not apply to saws used in the meat cutting industry to cut meat.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-13005 Guard portable belt sanding machines.
You must guard:

((~~• Guard:~~
~~–~~)) (1) Nip points where the sanding belt runs onto a pulley;
((~~–~~)) (2) The unused run of the sanding belt.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-140 Compressed air tools.

Summary((~~.~~))

This section applies to portable, hand-held compressed air powered tools. It also applies to airhose and plastic pipe used to supply compressed air to these tools.

Your responsibility:

Make sure compressed air and compressed air tools are used safely.

((~~**You must:**~~

~~**GENERAL TOOL REQUIREMENTS**~~

~~**Follow the manufacturer's instructions**~~

~~WAC 296-807-14005~~

~~**Prevent air tools from ejecting attachments**~~

~~WAC 296-807-14010~~

~~**CONTACT WITH COMPRESSED AIR**~~

~~**Protect employees from contact with compressed air**~~

~~WAC 296-807-14015~~

~~**CLEANING**~~

~~**Make sure safeguards are used when cleaning with compressed air**~~

~~WAC 296-807-14020~~

~~**AIRHOSE AND PLASTIC PIPE**~~

~~**Make sure airhose and plastic pipe supplying compressed air to portable air tools are safe**~~

~~WAC 296-807-14025~~

~~**TOOL DESIGN AND CONSTRUCTION**~~

~~**Make sure air tools are adequately designed and constructed**~~

~~WAC 296-807-14030~~

~~**TOOL USE**~~

~~**Use air tools safely**~~

~~WAC 296-807-14035~~

~~**FASTENER DRIVING TOOLS**~~

~~**Make sure fastener driving air tools (nailers and staplers) are safe**~~

~~WAC 296-807-14040.~~))

You must meet the requirements…	**in this section:**
Follow the manufacturer's instructions	WAC 296-807-14005
Prevent air tools from ejecting attachments	WAC 296-807-14010
Protect employees from contact with compressed air	WAC 296-807-14015
Make sure safeguards are used when cleaning with compressed air	WAC 296-807-14020

You must meet the requirements…	in this section:
Make sure airhose and plastic pipe supplying compressed air to portable air tools are safe	WAC 296-807-14025
Make sure air tools are adequately designed and constructed	WAC 296-807-14030
Use air tools safely	WAC 296-807-14035
Make sure fastener driving air tools (nailers and staplers) are safe	WAC 296-807-14040

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-14005 Follow the manufacturer's instructions.

You must((~~:~~

~~•~~)) follow the manufacturer's instructions for safe use of the tool.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-14010 Prevent air tools from ejecting attachments.

You must((~~:~~

~~•~~)) make sure the tool cannot accidentally eject an attachment.

Note: A retainer is needed if the tool does not have a positive method of keeping the attachment in the tool.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-14015 Protect employees from contact with compressed air. ((~~You must:~~

~~•~~)) You must make sure a tool nozzle or an airhose opening is not:

((~~–~~)) (1) Pointed at anyone;

((~~–~~)) (2) Allowed to contact a person's body.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-14020 Make sure safeguards are used when cleaning with compressed air. ((~~You must:~~

~~•~~)) You must use the following when cleaning with compressed air:

((–)) (1) Air pressure that has been reduced to less than 30 p.s.i. static pressure at the nozzle;

((–)) (2) Effective chip guarding.

Note: ((■)) 1. You may use air pressure greater than 30 p.s.i. if you use a nozzle with vents, holes, flaps or slots that will direct the air flow away from the tip of the nozzle and will reduce the air flow to less than 30 p.s.i if the nozzle becomes blocked.
((■)) 2. Effective chip guarding means any method or equipment that protects the eyes and skin of the cleaner and other workers from flying chips or particles.
3. Examples include:
((–)) a. A protective cone around the nozzle to protect the cleaner.
((–)) b. Barriers, baffles or screens to protect other workers.

Reference: Appropriate personal protective equipment (PPE) needs to be worn when cleaning with compressed air. See WAC 296-800-160 in the safety and health core rules.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-14025 Make sure airhose and plastic pipe supplying compressed air to portable air tools are safe. ((~~You must:~~))

(1) You must make sure the airhose and hose connections are suitable for the:

((~~•~~)) (a) Air pressure;

((~~•~~)) (b) Use.

(2) You must make sure any plastic pipe used to supply compressed air for portable air tools has been specifically identified by the manufacturer as being suitable for compressed air use.

Note: Existing unapproved pipe that is buried underground or enclosed in shatter-resistant material is acceptable only if it completely eliminates the hazards created by the brittle nature of the pipe.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-14030 Make sure air tools are adequately designed and constructed.

Exemption:

This section does not apply to:

((~~•~~)) 1. Tools specifically for medical or dental use;

((~~•~~)) 2. Tools specifically for use in the food processing industry;

((~~•~~)) 3. Tools mounted in stationary installations;

((~~•~~)) 4. Air hoists;

((~~•~~)) 5. Construction and mining tools such as paving breakers, diggers, tampers, and rock drills.

((~~You must:~~

~~•~~)) You must make sure portable, hand-held air tools meet the requirements of:

((–)) (1) ANSI B186.1-1984, Safety Code for Portable Air Tools((~~.~~ ~~OR~~

–)); or

(2) ANSI/ISANTA SNT-101-1993, Portable, Compressed-Air-Actuated, Fastener Driving Tools-Safety Requirements for.

Note: There may be a statement on the tool or in the instruction manual indicating the tool meets the requirements of the appropriate ANSI standard. If in doubt, check with the manufacturer.

AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-807-14035 Use air tools safely.

Exemption:

This section does not apply to:

((•)) 1. Tools specifically for medical or dental use;

((•)) 2. Tools specifically for use in the food processing industry;

((•)) 3. Tools mounted in stationary installations;

((•)) 4. Air hoists;

((•)) 5. Construction and mining tools such as paving breakers, diggers, tampers, and rock drills.

((~~You must:~~))

(1) You must relieve the pressure in the air line before disconnecting a compressed air tool from the line or disconnecting a hose joint unless there is automatic valve closing protection at the joint being separated.

(2) You must disconnect the tool from the compressed air supply before repairs are done.

(3) You must make sure that eye protection is worn at all times by:

((•)) (a) The person operating the tool;

((•)) (b) Other persons in the area where tools are being used.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-14040 Make sure fastener driving air tools (nailers and staplers) are safe. ((~~You must:~~)) (1) You must make sure any fastener driving air tool discharges all air in the tool when disconnected from the compressed air supply.

(2) You must make sure that all pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.

Note: Pneumatic nailers or staplers do not need this safety device if:
((•)) 1. The overall weight of the fastening device does not exceed the weight of one and one-half inches of standard 18-gauge wire. The normal maximum diameter tolerance for manufacturing standard 18-gauge wire is .045 inches.
((•)) 2. The operator and any other person within twelve feet of the point of operation wear approved eye protection.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-150 Powder actuated fastening systems.

Summary((~~.~~
~~IMPORTANT:~~))
Important:

This section applies to any powder actuated fastening system designed to use the expanding gases from a powder load to propel a stud, pin, fastener, or other object into hard structural material.

Exemption:

This section does not apply to:

((~~•~~)) 1. Devices designed to attach objects to soft construction material such as wood, plaster, tar, and dry wallboard;

((~~•~~)) 2. Stud welding equipment.

Your responsibility:

Make sure powder actuated fastening systems are used safely.

((~~**You must:**~~

~~**TOOL OPERATORS**~~

~~**Make sure tool operators are qualified**~~

~~WAC 296-807-15005~~

~~**PERSONAL PROTECTIVE EQUIPMENT**~~

~~**Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE)**~~

~~WAC 296-807-15010~~

~~**TOOL DESIGN AND CONSTRUCTION**~~

~~**Make sure tools are adequately designed and constructed**~~

~~WAC 296-807-15015~~

~~**LABELING**~~

~~**Make sure tools and containers are properly labeled**~~

~~WAC 296-807-15020~~

~~**POWDER LOADS**~~

~~**Make sure powder loads and power levels are properly identified**~~

~~WAC 296-807-15025~~

~~**Use proper powder loads**~~

~~WAC 296-807-15030~~

~~**TOOL USE**~~

~~**Make sure the tool is appropriate to the job**~~

~~WAC 296-807-15035~~

~~**Make sure the operator uses the tool safely**~~

~~WAC 296-807-15040~~

~~**FASTENERS**~~

~~**Use fasteners safely**~~

~~WAC 296-807-15045~~

~~**INSPECTION AND MAINTENANCE**~~

~~**Inspect and maintain tools properly**~~

~~WAC 296-807-15050~~

~~**STORAGE**~~

~~**Make sure tools are stored properly**~~

~~WAC 296-807-15055~~))

You must meet the requirements…	**in this section:**
Make sure tool operators are qualified	WAC 296-807-15005
Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE)	WAC 296-807-15010
Make sure tools are adequately designed and constructed	WAC 296-807-15015

You must meet the requirements…	in this section:
Make sure tools and containers are properly labeled	WAC 296-807-15020
Make sure powder loads and power levels are properly identified	WAC 296-807-15025
Use proper powder loads	WAC 296-807-15030
Make sure the tool is appropriate to the job	WAC 296-807-15035
Make sure the operator uses the tool safely	WAC 296-807-15040
Use fasteners safely	WAC 296-807-15045
Inspect and maintain tools properly	WAC 296-807-15050
Make sure tools are stored properly	WAC 296-807-15055

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15005 Make sure tool operators are qualified. ((~~You must:~~

~~•~~)) (1) You must make sure tools are used only by qualified operators.

((~~•~~)) (2) You must make sure operators have been trained by an authorized instructor.

Note: Authorized instructors have to meet the instructor qualifications of ANSI A10.3-1995, Safety Requirements for Powder-Actuated Fastening Systems.

((~~You must:~~

~~•~~)) (3) You must make sure all tool operators can:

((~~–~~)) (a) Understand the manufacturer's instructions;

((~~–~~)) (b) Clean the tool properly;

((~~–~~)) (c) Recognize any visibly worn or damaged parts;

((~~–~~)) (d) Identify power load levels;

((~~–~~)) (e) Operate the tool correctly.

((~~•~~)) (4) You must make sure tool operators have a valid qualified operator's card in their possession when they are using the tool.

AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-807-15010 Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE). ((~~You must:~~)) (1) You must make sure eye or face protection is worn by:

((~~•~~)) (a) Tool operators;

((~~•~~)) (b) Assistants;

((~~•~~)) (c) Persons close to where the tool is being used.

((~~You must:~~))

(2) You must post signs where tools are being used and in adjacent areas where tool use could pose a hazard. Signs must:

((•)) (a) Be easily seen;

((•)) (b) Be at least 8 x 10 inches (20 x 25 cm);

((•)) (c) Use letters in boldface type at least one inch (2.5 cm) high;

((•)) (d) Read "POWDER ACTUATED TOOL IN USE" or similar wording.

Note: Tool use could create a hazard in adjacent areas by allowing a fastener to penetrate one or more of the following:
((•)) 1. Wall;
((•)) 2. Floor;
((•)) 3. Other working surface.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15015 Make sure tools are adequately designed and constructed. ((~~You must:~~)) (1) You must make sure the tool meets the design and construction requirements of the American National Standards Institute (ANSI) standard ANSI A10.3-1995, Safety Requirements for Powder-Actuated Fastening Systems.

Note: There may be a statement on the tool or in the instruction manual indicating the tool meets the requirements of the appropriate ANSI standard. If in doubt, check with the manufacturer.

((~~You must:~~))

(2) You must make sure each tool has:

((•)) (a) Operator instructions and a tool service manual;

((•)) (b) Powder load and fastener chart;

((•)) (c) Service tools and accessories.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15020 Make sure tools and containers are properly labeled. ((~~You must:~~)) (1) You must make sure tools are properly labeled.

((•)) (2) You must make sure each tool has a readable, permanent label that shows the manufacturer's:

((–)) (a) Model number.

((–)) (b) Unique serial number.

((•)) (3) You must make sure there is a durable warning label on each tool that:

((–)) (a) Reads "WARNING - FOR USE ONLY BY QUALIFIED OPERATORS ACCORDING TO MANUFACTURER'S INSTRUCTION MANUAL" ((~~OR~~ –)); or

(b) Uses words with the same meaning.

((~~(2)~~)) (4) You must make sure the tool storage container has these labels:

((•)) (a) "POWDER ACTUATED TOOL" on the outside of the container in an easily seen position.

((•)) (b) "WARNING - POWDER ACTUATED TOOL. TO BE USED ONLY BY A QUALIFIED OPERATOR AND KEPT UNDER LOCK AND KEY WHEN NOT IN USE" on the inside cover.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15025 Make sure powder loads and power levels are properly identified. ((~~You must:~~

~~•~~)) You must make sure powder loads and power levels are identified as specified in Table 3, Powder-Load Identification

Table 3
Powder-Load Identification

	Power Level	Color Identification	
		Case Color	Load Color
Lowest Level	1	Brass	Gray
	2	Brass	Brown
	3	Brass	Green
	4	Brass	Yellow
	5	Brass	Red
	6	Brass	Purple
	7	Nickel	Gray
	8	Nickel	Brown
	9	Nickel	Green
	10	Nickel	Yellow
Highest power level	11	Nickel	Red
	12	Nickel	Purple

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15030 Use proper powder loads. ((~~You must:~~

~~•~~)) You must use only a powder load that is:

((–)) (1) Recommended by the tool manufacturer for the particular tool ((~~OR~~

–)); or

(2) One that provides the same level of safety and performance.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15035 Make sure the tool is appropriate to the job. ((~~You must:~~)) (1) You must use the lowest velocity class of tool and load that will properly set the fastener.

(2) You must use the proper shield, fixture, adaptor, or accessory that is:

((~~•~~)) (a) Suitable for the job;

((~~•~~)) (b) Recommended and supplied by the manufacturer.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15040 Make sure the operator uses the tool safely. ((~~You must:~~)) (1) You must make sure the operator:

((~~•~~)) (a) Inspects the tool before using it, as recommended by the tool manufacturer;

((~~•~~)) (b) Uses the tool according to the manufacturer's instructions;

((~~•~~)) (c) Keeps the tool unloaded until just before using it;

((~~•~~)) (d) Unloads the tool at once if work is interrupted after the tool has been loaded;

((~~•~~)) (e) Does not leave a tool or powder load unattended where it would be available to an unauthorized person;

((~~•~~)) (f) Never points a tool (loaded or unloaded) at any part of a person's body.

Note: A magazine or clip fed tool is not considered loaded until a powder load is actually in the ram (firing chamber).

((~~You must:~~))

(2) You must make sure tools are not used in an explosive or flammable atmosphere.

(3) You must do this if the tool misfires:

((~~•~~)) (a) Hold it firmly against the work surface for thirty seconds ((~~Then~~
~~•~~)); then

(b) Follow the instructions in the tool manufacturer's instruction manual.

(4) You must hold the tool perpendicular to the work surface when fastening to any material.

Exemption:

This does not apply if the tool manufacturer recommends a different technique for a specific job.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15045 Use fasteners safely. ((~~You must:~~)) (1) You must use fasteners:

((~~•~~)) (a) Recommended by the tool manufacturer for the particular tool ((~~OR~~
~~•~~)); or

(b) Fasteners that provide the same level of safety and performance.

(2) You must keep the fastener from passing completely through the structural material by using a backing material when driving a fastener into any material that is any of the following:

((~~•~~)) (a) Easily penetrated;

((~~•~~)) (b) Thin;

((~~•~~)) (c) Of questionable resistance.

(3) You must make sure the material is suitable for fastening. Do not drive fasteners into very hard or brittle material such as:

((~~•~~)) (a) Cast iron;

((~~•~~)) (b) Glazed tile;

((•)) (c) Hardened steel;
((•)) (d) Glass block;
((•)) (e) Natural rock;
((•)) (f) Hollow tile;
((•)) (g) Most brick.

(4) You must make sure positive alignment with an existing hole is maintained by using a guide or other means supplied or recommended by the tool manufacturer before driving a fastener into the hole.

(5) You must make sure fasteners are not driven into any spalled (chipped or crumbled) area.

(6) You must drive fasteners into concrete only if the fastener shank will penetrate no more than one-third the thickness of the concrete.

(7) You must make sure fasteners are driven at least:

((•)) (a) One-half inch (13 mm) from the edge of steel;

((•)) (b) Three inches (75 mm) from the unsupported edge of masonry material.

Exemption:

This does not apply if an application is specifically required or recommended by the tool manufacturer.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15050 Inspect and maintain tools properly. ((~~You must:~~

~~•~~)) (1) You must make sure any tool that is not in proper working condition is:

((–)) (a) Immediately removed from service;

((–)) (b) Tagged;

((–)) (c) Properly repaired as specified in the manufacturer's instructions before being used again.

((•)) (2) You must regularly service the tool and inspect it for worn or damaged parts at intervals recommended by the tool manufacturer.

((•)) (3) You must replace worn or damaged parts before the tool is used. This must be done:

((–)) (a) By a qualified person;

((–)) (b) Using only parts supplied by the tool manufacturer.

((•)) (4) You must keep a written record of inspection dates.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-15055 Make sure tools are stored properly. ((~~You must:~~)) (1) You must make sure there is a container that can be locked for each tool.

(2) You must make sure tools and powder loads that are not being used are:

((•)) (a) Locked in a container;

((•)) (b) Stored in a safe place;

((~~•~~)) (c) Only available to authorized persons.

(3) You must store all manuals, maintenance tools, and accessories in the tool container when they are not being used.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-160 Power lawnmowers.

Summary((~~.~~))

Exemption:

This section does not apply to commercial equipment that is:

((~~•~~)) 1. Designed primarily for agricultural purposes ((~~OR •~~)); or

2. Designed primarily to be operated with tractors having at least twenty horsepower for cutting grass or other growth on highways.

Your responsibility:

Make sure power lawnmowers are used safely.

((~~**You must:**~~

~~**DESIGN AND CONSTRUCTION**~~

~~**Make sure equipment meets minimum design and construction requirements**~~

~~WAC 296-807-16005~~

~~**LABELS**~~

~~**Make sure the equipment has the appropriate labels and decals**~~

~~WAC 296-807-16010~~

~~**BEFORE STARTING**~~

~~**Make sure the operator understands and follows instructions before starting the mower**~~

~~WAC 296-807-16015~~

~~**USE**~~

~~**Use the equipment safely**~~

~~WAC 296-807-16020~~

~~**NONELECTRIC MOWERS**~~

~~**Protect employees from fuel and exhaust**~~

~~WAC 296-807-16025~~

~~**WALK-BEHIND MOWERS**~~

~~**Use walk-behind mowers safely**~~

~~WAC 296-807-16030~~

~~**RIDE-ON MOWERS**~~

~~**Use ride-on mowers safely**~~

~~WAC 296-807-16035.~~))

You must meet the requirements…	**in this section:**
Make sure equipment meets minimum design and construction requirements	WAC 296-807-16005
Make sure the equipment has the appropriate labels and decals	WAC 296-807-16010
Make sure the operator understands and follows instructions before starting the mower	WAC 296-807-16015

You must meet the requirements…	in this section:
Use the equipment safely	WAC 296-807-16020
Protect employees from fuel and exhaust	WAC 296-807-16025
Use walk-behind mowers safely	WAC 296-807-16030
Use ride-on mowers safely	WAC 296-807-16035

AMENDATORY SECTION (Amending WSR 06-05-027, filed 2/7/06, effective 4/1/06)

WAC 296-807-16005 Make sure equipment meets minimum design and construction requirements. ((~~You must:~~)) (1) You must make sure equipment meets ANSI design and construction requirements.

((~~•~~)) (a) Make sure power lawnmowers manufactured on or after August 1, 2003, meet the requirements of the appropriate ANSI standard:

((~~–~~)) (i) ANSI B71.1-1998, American National Standard for Consumer Turf Care Equipment - Walk-Behind Mowers and Ride-On Machines with Mowers - Safety Specifications ((~~OR~~
~~–~~)); or

(ii) ANSI B71.4-1999, American National Standard for Commercial Turf Care Equipment - Safety Specifications.

((~~•~~)) (b) Make sure noncommercial power lawnmowers manufactured before the effective date of this chapter meet the requirements in chapter 296-806 WAC, Machine safety.

Note: There may be a statement on the tool or in the instruction manual indicating the tool meets the requirements of the appropriate ANSI standard. If in doubt, check with the manufacturer.

((~~You must:~~))

(2) You must position, guard or shield all power-driven shafts, chains, belts, gears, friction drive components, nip and pinch points, and any exposed components hot enough to cause burns while:

((~~•~~)) (a) Starting;

((~~•~~)) (b) Mounting;

((~~•~~)) (c) Operating the machine.

(3) You must have a shutoff device that:

((~~•~~)) (a) Will stop the motor or engine ((~~AND~~
~~•~~)); and

(b) Has to be intentionally and manually activated before the motor or engine can be restarted.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-16010 Make sure the equipment has the appropriate labels and decals. ((~~You must:~~)) (1) You must make sure all positions of the operating controls are clearly identified.

(2) You must make sure warning and caution labels or decals on the mower are readable and replace them if necessary.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-16015 Make sure the operator understands and follows instructions before starting the mower. ((~~You must:~~)) (1) You must make sure the operator understands all instructions for operating the mower that are in the manufacturer's instructions and on the machine.

((~~•~~)) (2) You must make sure the operator is thoroughly familiar with the controls and proper use of the mower before starting it.

((~~(2)~~)) (3) You must make sure the proper guards, plates, grass catcher or other safety devices are in place before starting the mower.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-16020 Use the equipment safely. ((~~You must:~~)) (1) You must follow the manufacturer's instructions for safe use of the equipment.

(2) You must keep people clear of discharge opening(s).

(3) You must keep people's hands and feet clear of rotating parts.

(4) You must clear the area of objects such as rocks, toys, wire, bones, sticks, etc., which could be picked up and thrown by the blade and create a hazard for the operator or other persons.

(5) You must make sure the operator stops the engine before:

((~~•~~)) (a) Leaving the equipment;

((~~•~~)) (b) Unclogging the grass discharge chute;

((~~•~~)) (c) Cleaning the mower.

(6) You must make sure the operator wears safety goggles or safety glasses with side shields when operating the mower.

Note: Use the personal protective equipment (PPE) hazard assessment to determine the type of footwear and other PPE the employees need to wear. See WAC 296-800-160, PPE, in the safety and health core rules.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-16025 Protect employees from fuel and exhaust.

Exemption:

This section does not apply to electric engines.

((~~You must:~~))

(1) You must make sure to:

((~~•~~)) (a) Keep the gas cap on whenever the engine is running.

((~~•~~)) (b) Shut off the engine before and during refueling.

(2) You must make sure not to refuel the machine indoors.

(3) You must make sure not to run the engine in a closed area.

Exemption:

You can refuel the machine indoors or run the engine in a closed area if the area was specifically designed for such use.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-16030 Use walk-behind mowers safely. ((~~You must:~~)) (1) You must make sure the operator wears substantial footwear when operating a walk-behind mower.

Note: Use the personal protective equipment (PPE) hazard assessment to determine the type of footwear and other PPE the employees need to wear. See WAC 296-800-160, PPE, in the safety and health core rules.

((~~You must:~~))

(2) You must mow across the face of a slope.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-16035 Use ride-on mowers safely. ((~~You must:~~)) (1) You must make sure not to carry passengers.

(2) You must make sure the operator looks down and behind before and while moving backwards.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-170 Jacks.

Summary((~~.~~

~~IMPORTANT:~~))

Important:

This section applies to portable hand- or power-operated:

((~~•~~)) (1) Hydraulic jacks;

((~~•~~)) (2) Mechanical ratchet jacks;

((~~•~~)) (3) Mechanical screw jacks.

Your responsibility:

Make sure jacks are safe to use.

((~~**You must:**~~

~~LABELING~~

~~**Make sure jacks are labeled with their rated load(s)**~~

~~WAC 296-807-17005~~

~~BEFORE USE~~

~~**Make sure the jack is safe to lift the load**~~

~~WAC 296-807-17010~~

~~LIFTING THE LOAD~~

~~**Lift the load safely**~~

~~WAC 296-807-17015~~

~~INSPECTION AND MAINTENANCE~~

~~**Visually inspect jacks and keep them in good working order**~~

~~WAC 296-807-17020.~~))

You must meet the requirements…	in this section:
Make sure jacks are labeled with their rated load(s)	WAC 296-807-17005
Make sure the jack is safe to lift the load	WAC 296-807-17010
Lift the load safely	WAC 296-807-17015
Visually inspect jacks and keep them in good working order	WAC 296-807-17020

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-17005 Make sure jacks are labeled with their rated load(s). ((~~You must:~~

~~•~~)) You must make sure the rated load(s) of the jack is:

((~~–~~)) (1) Readable;

((~~–~~)) (2) Durably marked in an easily seen location on the jack.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-17010 Make sure the jack is safe to lift the load. ((~~You must:~~)) (1) You must visually examine the general condition of the jack before each use.

Note: If a jack is to be used more than once on a shift, the visual examination is only required before the jack is used for the first time that shift.

((~~You must:~~))

(2) You must make sure the weight to be lifted or supported is within the rated load of the jack.

(3) You must make sure the base of the jack is on a firm foundation or blocked before lifting the load.

(4) You must make sure hydraulic jacks exposed to freezing temperatures function properly at the temperature they will be used.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-17015 Lift the load safely. ((~~You must:~~)) (1) You must place a block between the load cap and the load if the load could slip off the jack.

(2) You must secure the load from falling or slipping immediately after it is raised by one or more of the following:

((~~•~~)) (a) Cribbing;

((~~•~~)) (b) Blocking;

((~~•~~)) (c) Some other equally effective method.

(3) You must make sure you do not exceed the limit of travel of the jack.

Note: The limit of travel can be determined by one or more of the following:
((•)) 1. A positive stop;
((•)) 2. A stop indicator;
((•)) 3. Some other equally effective method.

AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-807-17020 Visually inspect jacks and keep them in good working order.

Note: There are two types of inspection, frequent or periodic, depending on how often they are done.

((~~You must:~~)) (1) You must inspect jacks at appropriate intervals:

((•)) (a) Make sure frequent inspections are done by the operator or other designated person as follows:

((–)) (i) Before a jack is first placed in service((.));

((–)) (ii) Monthly for a jack used in normal service((.));

((–)) (iii) Daily or before each use for a jack used for other than normal service((.));

((–)) (iv) Before using a jack that has been altered, modified, or repaired((.));

((–)) (v) Before using a jack that has not been used in one year or more.

((•)) (b) Make sure a periodic inspection of the jack is done once a year.

((•)) (c) Inspect the jack using Table 4, Jack Inspection Requirements, during any frequent or periodic inspection.

(2) You must make sure a jack that is out of order is:

((•)) (a) Tagged;

((•)) (b) Not used until repaired.

(3) You must make sure a jack is properly lubricated at regular intervals.

Note: The jack should be lubricated following the manufacturer's instructions.

Table 4
Jack Inspection Requirements

Inspection Item	Frequent Inspection	Periodic Inspection
Check all of the following items that apply to the jack:		
Improper pawl engagement	X	X
Excessive pawl wear	X	X
Chipped, cracked, or worn rack teeth	X	X
Cracked or damaged housing	X	X
Damaged, bent, or worn threads	X	X
Leaking hydraulic fluid	X	X
Scored or damaged plunger	X	X

Inspection Item	Frequent Inspection	Periodic Inspection
Check all of the following items that apply to the jack:		
Improper functioning	X	X
Free movement of swivel, heads, and caps	X	X
Loose bolts or rivets	X	X
Damaged or improperly assembled accessory equipment	X	X
Rack wear or bending	X	X
Other items as specified in the manufacturer's instructions	X	X
Watch the jack during operation	X	X
More detailed inspection required if a designated person determines any condition discovered is a hazard	X	
Clean and check internal parts for wear or damage if inspection indicates an internal problem		X

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-180 Portable tools using abrasive wheels.

Summary((~~.~~
~~IMPORTANT:~~))

Important:

This section applies to portable tools using abrasive wheels.

((**~~Definition:~~**
~~Abrasive wheel.~~ ~~A grinding tool consisting of bonded abrasive grains. This includes diamond and reinforced wheels.~~))

Exemption:

This section does not apply to machines using:

((~~•~~)) 1. Natural sandstone wheels;
((~~•~~)) 2. Pulpstone wheels;
((~~•~~)) 3. Coated abrasive products;
((~~•~~)) 4. Loose abrasives.

Your responsibility:

Make sure abrasive wheel tools and wheels are safe to use.

((**~~You must:~~**
~~DESIGN AND CONSTRUCTION~~
~~Make sure abrasive wheels and tools are properly designed and constructed~~
~~WAC 296-807-18005~~
~~GUARDS~~
~~Make sure machines have safety guards~~
~~WAC 296-807-18010~~

~~**Keep safety guards in good functional condition**~~
~~WAC 296-807-18015~~
~~**GUARDS - SPECIFIC WHEELS**~~
~~**Use specific safety guards for machines using Type 1 grinding wheels, cutting-off wheels, and tuck pointing wheels**~~
~~WAC 296-807-18020~~
~~**Use specific safety guards for vertical and angle grinders using Type 6 or Type 11 wheels**~~
~~WAC 296-807-18025~~
~~**Use specific safety guards for vertical and angle grinders using Type 27, 28 and 29 wheels**~~
~~WAC 296-807-18030~~
~~**SIDE HANDLES**~~
~~**Use side handles on vertical and angle grinders**~~
~~WAC 296-807-18035~~
~~**ABRASIVE WHEELS**~~
~~**Make sure abrasive wheels are safe to use**~~
~~WAC 296-807-18040~~
~~**MOUNTING**~~
~~**Mount wheels properly**~~
~~WAC 296-807-18045~~
~~**FLANGES**~~
~~**Use proper flanges**~~
~~WAC 296-807-18050~~
~~**Make sure flanges are in good condition**~~
~~WAC 296-807-18055~~
~~**FLANGES - SPECIFIC WHEELS**~~
~~**Use specific flanges for Type 1 cutting-off wheels**~~
~~WAC 296-807-18060~~
~~**Use specific flanges for Type 27A cutting-off wheels**~~
~~WAC 296-807-18065~~
~~**Use specific flanges for threaded hole wheels**~~
~~WAC 296-807-18070~~
~~**Use specific flanges for cup, cone or plug wheels with threaded inserts or projecting studs**~~
~~WAC 296-807-18075~~
~~**BLOTTERS**~~
~~**Use blotters when required**~~
~~WAC 296-807-18080~~
~~**BLOTTERS - TYPE 6 AND 11 WHEELS**~~
~~**Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo)**~~
~~WAC 296-807-18085.~~))

You must meet the requirements…	**in this section:**
Make sure abrasive wheels and tools are properly designed and constructed	WAC 296-807-18005
Make sure machines have safety guards	WAC 296-807-18010
Keep safety guards in good functional condition	WAC 296-807-18015
Use specific safety guards for machines using Type 1 grinding wheels, cutting-off wheels, and tuck pointing wheels	WAC 296-807-18020

You must meet the requirements…	in this section:
Use specific safety guards for vertical and angle grinders using Type 6 or Type 11 wheels	WAC 296-807-18025
Use specific safety guards for vertical and angle grinders using Type 27, 28 and 29 wheels	WAC 296-807-18030
Use side handles on vertical and angle grinders	WAC 296-807-18035
Make sure abrasive wheels are safe to use	WAC 296-807-18040
Mount wheels properly	WAC 296-807-18045
Use proper flanges	WAC 296-807-18050
Make sure flanges are in good condition	WAC 296-807-18055
Use specific flanges for Type 1 cutting-off wheels	WAC 296-807-18060
Use specific flanges for Type 27A cutting-off wheels	WAC 296-807-18065
Use specific flanges for threaded hole wheels	WAC 296-807-18070
Use specific flanges for cup, cone or plug wheels with threaded inserts or projecting studs	WAC 296-807-18075
Use blotters when required	WAC 296-807-18080
Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo)	WAC 296-807-18085

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18005 Make sure abrasive wheels and tools are properly designed and constructed. ((~~You must:~~

~~•~~)) You must make sure abrasive wheels and tools meet the design and construction requirements of:

((~~–~~)) (1) American National Standards Institute (ANSI) B7.1-2000, Safety Requirements for the Use, Care and Protection of Abrasive Wheels ((~~OR~~

~~–~~)); or

(2) ANSI B186.1-1984, Safety Code for Portable Air Tools.

Note: Tools may have a statement on the tool or in the instruction manual that the tool meets the appropriate ANSI standard. If in doubt, check with the manufacturer.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18010 Make sure machines have safety guards. ((~~You must:~~

~~•~~)) (1) You must use abrasive wheels only on machines that have safety guards.

((~~•~~)) (2) You must make sure the safety guard:

((~~–~~)) (a) Is mounted so it maintains proper alignment with the wheel;

((~~–~~)) (b) Is mounted with fasteners strong enough to keep the guard in position if a wheel breaks;

((~~–~~)) (c) Is positioned to deflect pieces of an accidentally broken wheel away from the operator;

((~~–~~)) (d) Covers the spindle end, nut, and flange projections.

Exemption:

Safety guards are not required on machines that use:

((~~•~~)) 1. Wheels for internal grinding while advancing, retracting or within the work.

((~~•~~)) 2. Mounted wheels two inches or less in diameter.

((~~•~~)) 3. Types 16, 17, 18, 18R, and 19 cones and plugs and threaded hole pot balls where((~~:~~

~~–~~)) the work offers protection ((~~OR~~

~~–~~)) or the size does not exceed three inches in diameter by five inches long.

((~~•~~)) 4. Notched, segmented, or continuous rim metal centered diamond lapidary wheels that are((~~:~~

~~–~~)) used with a coolant deflector ((~~AND~~

~~–~~)) and operated at 3,500 SFPM or less.

((~~•~~)) 5. Type 1 wheels that are:

((~~–~~)) a. Two inches or less in diameter;

((~~–~~)) b. One-half inch or less thick;

((~~–~~)) c. Operating at peripheral speeds less than 1,800 SFPM;

((~~–~~)) d. Mounted on mandrels and used in portable drills.

((~~•~~)) 6. Type 1 reinforced wheels that are:

((~~–~~)) a. Three inches or less in diameter one-quarter inch or less thick;

((~~–~~)) b. Operating at peripheral speeds of 9,500 SFPM or less;

((~~–~~)) c. Used by operators wearing safety glasses and face shields((~~.~~));

((~~•~~)) d. Valve seating grinding wheels.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18015 Keep safety guards in good functional condition. ((~~You must:~~

~~•~~)) (1) You must make sure safety guards are in good functional condition.

((~~•~~)) (2) You must replace any safety guard that:

((~~–~~)) (a) Is damaged, bent or severely worn ((~~OR~~

~~–~~)); or

(b) Has been hit by parts from a breaking wheel.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18020 Use specific safety guards for machines using Type 1 grinding wheels, cutting-off wheels, and tuck pointing wheels. ((~~You must:~~

~~•~~)) You must make sure the safety guard covers the top and sides of the wheel for at least one hundred eighty degrees.

Note: It is not required to cover the spindle end, nut and outer flange.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18025 Use specific safety guards for vertical and angle grinders using Type 6 or Type 11 wheels. ((~~You must:~~

~~•~~)) (1) You must make sure the safety guard:

((–)) (a) Covers the wheel's plane of rotation toward the operator for at least one hundred eighty degrees;

((–)) (b) Covers the side of the wheel toward the driving flange for at least one hundred eighty degrees;

((–)) (c) Has a skirt which is adjustable to within one-eighth inch of the plane of the surface of the wheel.

((~~•~~)) (2) You must make sure not to use a "revolving cup guard."

Note: "Cup back bushings" do not substitute for safety guards.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18030 Use specific safety guards for vertical and angle grinders using Type 27, 28 and 29 wheels. ((~~You must:~~

~~•~~)) You must make sure safety guards:

((–)) (1) Cover the wheel's plane of rotation toward the operator for at least one hundred eighty degrees.

((–)) (2) Cover the side of the wheel toward the driving flange for at least one hundred eighty degrees.

((–)) (3) Have a lip on the outer edge that:

((■)) (a) Extends beyond the surface of the wheel throughout the one hundred eighty degree coverage ((~~AND~~

■)); and

(b) Curls inward to deflect wheel fragments.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18035 Use side handles on vertical and angle grinders. ((~~You must:~~)) You must use a side handle on all four-inch and larger vertical and angle grinders.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18040 Make sure abrasive wheels are safe to use. ((~~You must:~~

~~•~~)) (1) You must do the following before mounting a wheel:

((–)) (a) Visually inspect the wheel for cracks or damage;

((–)) (b) Perform a ring test for cracks (size and shape of the wheel permitting);

((–)) (c) Make sure the spindle speed of the machine is not greater than the operating speed of the wheel.

((~~•~~)) (2) You must make sure a damaged or cracked wheel is not mounted or used.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18045 Mount wheels properly. ((~~You must:~~)) (1) You must make sure wheels fit freely on the spindle, wheel sleeves, or adaptors, and remain free under all grinding conditions.

(2) You must make sure wheel, blotter and flange surfaces that contact each other are flat and free of foreign particles.

(3) You must make sure any reducing bushing used in the wheel hole:

((~~•~~)) (a) Fits freely on the spindle and maintains proper clearance;

((~~•~~)) (b) Does not exceed the width of the wheel or contact the flanges.

(4) You must make sure that multiple wheels mounted between a single set of flanges are either:

((~~•~~)) (a) Cemented together ((~~OR~~

~~•~~)); or

(b) Separated by spacers that have a diameter and bearing surface that is the same as the mounting flanges.

AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-807-18050 Use proper flanges. ((~~You must:~~

~~•~~)) (1) You must mount all abrasive wheels between flanges that have a diameter at least one-third the diameter of the wheel.

Exemption:

This requirement does not apply to the following types of wheels:

((~~•~~)) 1. Mounted wheels;

((~~•~~)) 2. Cup, cone or plug wheels with threaded inserts or projecting studs;

((~~•~~)) 3. Abrasive disc wheels (inserted nut, inserted washer and projecting stud type);

((~~•~~)) 4. Plate mounted wheels;

((~~•~~)) 5. Cylinder, cup, or segmental wheels mounted in chucks;

((•)) 6. Types 27, 28, and 29 wheels;
((•)) 7. Internal wheels less than two inches in diameter;
((•)) 8. Modified Type 6 and 11 wheels (terrazzo);
((•)) 9. Types 1 and 27A cutting-off wheels.
((~~You must:~~
~~•~~)) (2) You must make sure flanges are:
((–)) (a) Dimensionally accurate;
((–)) (b) Properly balanced;
((–)) (c) Flat;
((–)) (d) Free of rough surfaces or sharp edges.
((–)) (3) You must make sure, if a wheel is mounted between two flanges, that both flanges:
((–)) (a) Are the same diameter;
((–)) (b) Have equal bearing surfaces.

Exemption:

The following wheels do not require same diameter, equal bearing surface flanges:
((•)) 1. Types 27, 28, and 29 wheels with adaptors;
((•)) 2. Modified Types 6 and 11 wheels with tapered K dimension;
((•)) 3. Internal wheels less than two inches in diameter.
((~~You must:~~
~~•~~)) (4) You must make sure the driving flange is:
((–)) (a) Part of the spindle ((~~OR~~
–)); or
(b) Securely fastened to the spindle.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18055 Make sure flanges are in good condition. ((~~You must:~~
~~•~~)) (1) You must make sure flange bearing surfaces are in good condition.
((•)) (2) You must replace or remachine any flange with a mounting surface that has any of the following problems:
((–)) (a) Warped;
((–)) (b) Burred on the bearing surface;
((–)) (c) Excessively worn (thickness or diameter);
((–)) (d) Out of true.

Note: Flanges that are refaced or trued need to satisfy minimum dimension requirements specified in ANSI B7.1-2000, Safety Requirements for the Use, Care and Protection of Abrasive Wheels.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18060 Use specific flanges for Type 1 cutting-off wheels. ((~~You must:~~
~~•~~)) You must mount Type 1 cutting-off wheels between flanges that are:
((–)) (1) Properly relieved with matching bearing surfaces;
((–)) (2) At least one-quarter the wheel diameter.

Note: American National Standards Institute (ANSI) B7.1-2000, Safety Requirements for the Use, Care and Protection of Abrasive Wheels, has specific exemptions for some reinforced, bonded abrasive cutting-off wheels and steel centered, diamond cutting-off wheels. These wheels are primarily used for masonry cutting and concrete sawing.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18065 Use specific flanges for Type 27A cutting-off wheels. ((~~You must:~~

~~•~~)) You must mount Type 27A cutting-off wheels between flanges that are:

((~~–~~)) (1) Flat (unrelieved) with matching bearing surfaces;

((~~–~~)) (2) At least one-quarter the wheel diameter.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18070 Use specific flanges for threaded hole wheels. ((~~You must:~~

~~•~~)) You must use a back flange to mount threaded hole wheels that is:

((~~–~~)) (1) Flat (unrelieved);

((~~–~~)) (2) Securely fastened and square to the spindle axis;

((~~–~~)) (3) Able to properly support the wheel.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18075 Use specific flanges for cup, cone or plug wheels with threaded inserts or projecting studs. ((~~You must:~~

~~•~~)) You must mount cup, cone or plug wheels with threaded inserts or projecting studs against a straight, unrelieved flange.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18080 Use blotters when required. ((~~You must:~~

~~•~~)) (1) You must use a blotter between each flange and the abrasive wheel surface to uniformly distribute flange pressure.

((~~•~~)) (2) You must make sure the blotter covers the entire flange contact area.

((~~•~~)) (3) You must use a new blotter each time a wheel is mounted unless the wheel has a blotter already attached to it by the manufacturer.

((~~•~~)) (4) You must make sure scuffed or damaged blotters are not used.

Exemption:

You do not need to use a blotter with:

((•)) 1. Mounted wheels;

((•)) 2. Abrasive disc and Type 2 wheels which are mounted by inserted nuts, inserted washers, or projecting studs;

((•)) 3. Plate mounted wheels;

((•)) 4. Wheels mounted in chucks (such as cylinders and segmental wheels);

((•)) 5. Types 27, 28, and 29 wheels;

((•)) 6. Type 1 and Type 27A cutting-off wheels;

((•)) 7. Internal wheels less than two inches in diameter;

((•)) 8. Diamond and cubic boron nitride wheels with metal or carbon fiber cores.

AMENDATORY SECTION (Amending WSR 03-09-009, filed 4/4/03, effective 8/1/03)

WAC 296-807-18085 Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo). ((~~You must:~~

~~•~~)) You must mount modified Types 6 and 11 wheels (terrazzo) with a blotter applied to the flat side of the wheel only.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 296-807-190 Definitions.

NEW SECTION

WAC 296-817-099 Noise definitions. A-weighted. An adjustment to sound level measurements that reflects the sensitivity of the human ear. Used for evaluating continuous or average noise levels.

Audiogram. A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

Audiologist. A professional, specializing in the study and rehabilitation of hearing, who is certified by the American Speech, Hearing, and Language Association, or the American Academy of Audiology, and is licensed by the state board of examiners.

Baseline audiogram. The audiogram against which future audiograms are compared. The baseline audiogram is collected when an employee is first assigned to work with noise exposure. The baseline audiogram may be revised if persistent standard threshold shift (STS) of improvement is found.

Continuous noise. Noise with peaks spaced no more than one second apart. Continuous noise is measured using sound level meters and noise dosimeters with the slow response setting.

Criterion sound level. A sound level of ninety decibels. An eight-hour exposure to constant 90 dBA noise is a one hundred percent noise dose exposure.

C-weighted. An adjustment to sound level measurements that evenly represents frequencies within the range of human hearing. Used for evaluating impact or impulse noise.

Decibel (dB). Unit of measurement of sound level. A-weighting, adjusting for the sensitivity of the human ear, is indicated as "dBA." C-weighting, an even reading across the frequencies of human hearing, is indicated as "dBC."

Fast response. A setting for a sound level meter that will allow the meter to respond to noise events of less than one second. Used for evaluating impulse and impact noise levels.

Hertz (Hz). Unit of measurement of frequency, numerically equal to cycles per second.

Impulsive or impact noise. Noise levels which involve maxima at intervals greater than one second. Impulse and impact noise are measured using the fast response setting on a sound level meter.

Noise dose. The total noise exposure received by an employee during their shift. It can be expressed as a percentage indicating the ratio of exposure received to the noise exposure received in an eight-hour exposure to constant noise at 90 dBA. It may also be expressed as the sound level that would produce the equivalent exposure during an eight-hour period (TWA_8).

Noise dosimeter. An instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.

Occupational hearing loss. A reduction in the ability of an individual to hear either caused or contributed to by exposure in the work environment.

Otolaryngologist. A physician specializing in diagnosis and treatment of disorders of the ear, nose, and throat.

Permanent threshold shift. A hearing level change that has become persistent and is not expected to improve.

Qualified reviewer. An audiologist, otolaryngologist, or other qualified physician who has experience and training in evaluating occupational audiograms.

Slow response. A setting for sound level meters and dosimeters in which the meter does not register events of less than about one second. Used for evaluating continuous and average noise levels.

Sound level. The intensity of noise as indicated by a sound level meter.

Sound level meter. An instrument that measures sound levels.

Standard threshold shift (STS). A hearing level change, relative to the baseline audiogram, of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.

Temporary threshold shift. A hearing level change that improves. A temporary threshold shift may occur with exposure to noise and hearing will return to normal within a few days. Temporary threshold shifts can be indicators of exposures that lead to permanent hearing loss.

TWA_8 - Equivalent eight-hour time-weighted average sound level. That sound level, which if constant over an eight-hour period, would result in the same noise dose measured in an environment where the noise level varies.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-100 Scope. The purpose of this chapter is to:

((•)) (1) Prevent employee hearing loss by minimizing employee noise exposures ((~~AND~~ •)); and

(2) Make sure employees exposed to noise are protected.

These goals are accomplished by:

((•)) (1) Measuring and computing the employee noise exposure from all equipment and machinery in the workplace, as well as any other noise sources in the work area;

((•)) (2) Protecting employees from noise exposure by using feasible noise controls;

((•)) (3) Making sure employees use hearing protection, if you cannot feasibly control the noise;

((•)) (4) Training employees about hearing loss prevention;

((•)) (5) Evaluating your hearing loss prevention efforts by tracking employee hearing or periodically reviewing controls and protection;

((•)) (6) Making appropriate corrections to your program.

Reference: Table 1 will help you determine the hearing loss prevention requirements for your workplace. For the specific requirements associated with noise evaluation criteria, see WAC 296-817-30010 of this chapter.

Use Table 1 to help you determine the hearing loss prevention requirements for your workplace:

Table 1
Noise Evaluation Criteria

Criteria	Description	Requirements
85 dBA TWA_8	Full-day employee noise exposure dose. If you have one or more employees whose exposure equals or exceeds this level, you must have a hearing loss prevention program.	((–)) Hearing protection ((–)) Training ((–)) Audiometric testing
90 dBA TWA_8	Full-day employee noise exposure dose. If you have one or more employees whose exposure equals or exceeds this level, you must reduce employee noise exposures in the workplace.	((–)) Noise controls ((~~and~~ –)) Hearing protection ((–)) Training ((–)) Audiometric testing
115 dBA measured using slow response	Extreme noise level (greater than one second in duration).	((–)) Hearing protection ((–)) Signs posted in work areas warning of exposure
140 dBC measured using fast response	Extreme impulse or impact noise (less than one second in duration).	Hearing protection

((~~HEARING LOSS PREVENTION PROGRAM~~))

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-200 ((~~Summary.~~)) Hearing loss prevention program. Summary

Your responsibility:

To prevent employee hearing loss by minimizing, and providing protection from, noise exposures.

((~~**You must:**~~

~~Conduct employee noise exposure monitoring~~

~~WAC 296-817-20005~~

~~Control employee noise exposures that equal or exceed 90 dBA TWA_8~~

~~WAC 296-817-20010~~

~~Make sure employees use hearing protection when their noise exposure equals or exceed 85 dBA TWA_8~~

~~WAC 296-817-20015~~
~~Make sure exposed employees receive training about noise and hearing protection~~
~~WAC 296-817-20020~~
~~Make sure warning signs are posted for areas with noise levels that equal or exceed 115 dBA~~
~~WAC 296-817-20025~~
~~Arrange for oversight of audiometric testing~~
~~WAC 296-817-20030~~
~~Identify and correct deficiencies in your hearing loss prevention program~~
~~WAC 296-817-20035~~
~~Document your hearing loss prevention activities~~
~~WAC 296-817-20040.~~))

You must meet the requirements…	**in this section:**
Conduct employee noise exposure monitoring	WAC 296-817-20005
Control employee noise exposures that equal or exceed 90 dBA TWA_8	WAC 296-817-20010
Make sure employees use hearing protection when their noise exposure equals or exceeds 85 dBA TWA_8	WAC 296-817-20015
Make sure exposed employees receive training about noise and hearing protection	WAC 296-817-20020
Make sure warning signs are posted for areas where noise levels equal or exceed 115 dBA	WAC 296-817-20025
Arrange for oversight of audiometric testing	WAC 296-817-20030
Identify and correct deficiencies in your hearing loss prevention program	WAC 296-817-20035
Document your hearing loss prevention activities	WAC 296-817-20040

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-20005 Conduct employee noise exposure monitoring. ((~~**You must:**~~
~~•~~)) (1) You must conduct employee noise exposure monitoring to determine the employee's actual exposure when reasonable information indicates that any employee's exposure may equal or exceed 85 dBA TWA_8.

Note: ((•)) Representative monitoring may be used where several employees perform the same tasks in substantially similar conditions.
((•)) Examples of information or situations that can indicate exposures which equal or exceed 85 dBA TWA_8, include:
((•)) 1. Noise in the workplace that interferes with people speaking, even at close range.
((•)) 2. Information from the manufacturer of equipment you use in the workplace that indicates high noise levels for machines in use.
((•)) 3. Reports from employees of ringing in their ears or temporary hearing loss.
((•)) 4. Warning signals or alarms that are difficult to hear.
((•)) 5. Work near abrasive blasting or jack hammering operations.
((•)) 6. Use of tools and equipment such as the following:

((–)) a. Heavy equipment or machinery.
((–)) b. Fuel-powered hand tools.
((–)) c. Compressed air-driven tools or equipment in frequent use.
((–)) d. Power saws, grinders or chippers.
((–)) e. Powder-actuated tools.

((~~You must:~~

~~•~~)) (2) You must follow applicable guidance in WAC 296-817-300 when conducting noise exposure monitoring;

((~~•~~)) (3) You must make sure your sampling for noise exposure monitoring identifies:

((–)) (a) All employees whose exposure equals or exceeds the following:

((■)) (i) 85 dBA TWA_8 (noise dosimetry, providing an average exposure over an eight-hour time period);

((■)) (ii) 115 dBA (slow response sound level meter, identifying short-term noise exposures);

((■)) (iii) 140 dBC (fast response sound level meter, identifying almost instantaneous noise exposures).

((–)) (b) Exposure levels for selection of hearing protection.

((~~•~~)) (4) You must provide exposed employees and their representatives with an opportunity to observe any measurements of employee noise exposure that are conducted.

((~~•~~)) (5) You must notify each employee whose exposure equals or exceeds 85 dBA TWA_8 of the monitoring results within five working days of when you receive the results.

((~~•~~)) (6) You must conduct additional noise monitoring whenever a change in production, process, equipment or controls, may reasonably be expected to result in:

((–)) (a) Additional employees whose exposure equals or exceeds 85 dBA TWA_8;

((–)) (b) Employees exposed to higher level of noise requiring more effective hearing protection.

Note: Conditions that may be expected to increase exposure include:
((•)) 1. Adding machinery to the work area.
((•)) 2. Increasing production rates.
((•)) 3. Removal or deterioration of noise control devices.
((•)) 4. Increased use of noisy equipment.
((•)) 5. Change in work schedule.
((•)) 6. Change of job duties.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-20010 Control employee noise exposures that equal or exceed 90 dBA TWA_8.

((~~IMPORTANT:~~)) **Important:**

Hearing protection provides a barrier to noise and protects employees but is not considered a control of the noise hazard. Separate requirements apply to hearing protection and are found in WAC 296-817-20015.

((~~You must:~~

~~•~~)) You must reduce employee noise exposure, using feasible controls, wherever exposure equals or exceeds 90 dBA TWA_8.

Note: ((•)) 1. Once noise exposures are brought below 90 dBA TWA_8, no further reduction is required. However, further reduction of noise may reduce the need for other hearing loss prevention requirements.
((•)) 2. Controls that eliminate noise at the source or establish a permanent barrier to noise are typically more reliable. For example:
((–)) a. Replacing noisy equipment with quiet equipment.

((–)) b. Using silencers and mufflers.
((–)) c. Installing enclosures.
((–)) d. Damping noisy equipment and parts.
((•)) 3. Other controls and work practices may also be useful for reducing noise exposures. Examples include:
((–)) a. Employee rotation.
((–)) b. Limiting use of noisy equipment.
((–)) c. Rescheduling work.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-20015 Make sure employees use hearing protection when their noise exposure equals or exceeds 85 dBA TWA_8. ((~~You must:~~

~~•~~)) (1) You must make sure employees wear hearing protectors that will provide sufficient protection when exposure equals or exceeds:

((–)) (a) 85 dBA TWA_8 (noise dosimetry, providing an average exposure over an eight-hour time period);

((–)) (b) 115 dBA (slow response sound level meter, identifying short-term noise exposures);

((–)) (c) 140 dBC (fast response sound level meter, identifying almost instantaneous noise exposures).

((~~•~~)) (2) You must provide employees with an appropriate selection of hearing protectors:

((–)) (a) The selection must include at least two distinct types (such as molded earplugs, foam earplugs, custom-molded earplugs, earcaps, or earmuffs) for each exposed employee and must be sufficient to cover:

((■)) (i) Different levels of hearing protection needed in order to reduce all employee exposures to a level below 85 dBA TWA_8;

((■)) (ii) Different sizes;

((■)) (iii) Different working conditions.

((–)) (b) Consider requests of the employees regarding:

((■)) (i) Physical comfort;

((■)) (ii) Environmental conditions;

((■)) (iii) Medical needs;

((■)) (iv) Communication requirements.

Note: Hearing protector selection should include earplugs, earcaps and earmuffs.

((~~You must:~~

~~•~~)) (3) You must provide hearing protection at no cost to employees.

((~~•~~)) (4) You must supervise employees to make sure that hearing protection is used correctly.

((~~•~~)) (5) You must make sure hearing protectors are:

((–)) (a) Properly chosen for fit;

((–)) (b) Replaced as necessary.

((~~•~~)) (6) You must make sure all hearing protection is sufficient to reduce the employee's equivalent eight-hour noise exposure to 85 dBA or less. When using the A-weighted exposure measurements, reported as "dBA TWA_8," the reduction in noise exposure by hearing protectors is given by Table 2:

Table 2
Effective Protection of Hearing Protectors

Type of hearing protection	Effective protection
Single hearing protection (earplugs, earcaps or earmuffs)	7 dB less than the manufacturer assigned noise reduction rating (NRR); for example, earplugs with an NRR of 20 dB are considered to reduce employee exposures of 95 dBA TWA_8 to 82 dBA TWA_8
Dual hearing protection (earplug and earmuff worn together)	2dB less than the higher NRR of the two protectors; for example, earplugs with an NRR of 20 dB and earmuffs with an NRR of 12 dB are considered to reduce employee exposures of 100 dBA TWA_8 to 82 dBA TWA_8

((~~•~~)) (7) In addition to protection based on daily noise dose, make sure hearing protection has an NRR of at least 20 dB when exposures involve noise that equals or exceeds 115 dBA (slow response sound level meter) or 140 dBC (fast response sound level meter).

Note: 1. You may also evaluate hearing protection by using the other methods given in the NIOSH *Compendium of Hearing Protection* (NIOSH Publication No. 95-105).
2. These methods require additional monitoring and are more complex, but provide a more thorough evaluation of protection.
3. This may be useful in cases where communication is critical or for evaluating hearing protection for employees with hearing impairment.

AMENDATORY SECTION (Amending WSR 09-15-145, filed 7/21/09, effective 9/1/09)

WAC 296-817-20020 Make sure exposed employees receive training about noise and hearing protection. ((~~You must:~~

~~•~~)) (1) You must train each employee whose noise exposure equals or exceeds 85 dBA TWA_8.

((~~•~~)) (2) You must provide training when an employee is first assigned to a position involving noise exposure that equals or exceeds 85 dBA TWA_8 **and** at least annually after that.

((~~•~~)) (3) You must update information provided in the training program to be consistent with changes in controls, hearing protectors and work processes.

((~~•~~)) (4) You must make sure your noise and hearing protection training includes:

((~~–~~)) (a) The effects of noise on hearing (including both occupational and nonoccupational exposures);

((~~–~~)) (b) Noise controls used in your workplace;

((~~–~~)) (c) The purpose of hearing protectors: The advantages, disadvantages, and attenuation of various types;

((~~–~~)) (d) Instructions about selecting, fitting, using, and caring for hearing protection;

((~~–~~)) (e) The purpose and procedures for program evaluation including audiometric testing and hearing protection auditing when you choose to rely upon auditing (see WAC 296-817-500);

((–)) (f) The employees' right to access records kept by the employer.

((•)) (5) You must maintain a written program describing initial and refresher training.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-20025 Make sure warning signs are posted for areas where noise levels equal or exceed 115 dBA. ((~~You must:~~

~~•~~)) (1) You must make sure warning signs are posted at the entrances or boundaries of all well-defined work areas where employees may be exposed to noise that equals or exceeds 115 dBA (measured using a sound level meter with slow response).

((–)) (2) Warning signs must clearly indicate that the area is a high noise area and that hearing protectors are required.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-20030 Arrange for oversight of audiometric testing. ((~~You must:~~

~~•~~)) (1) You must make sure audiometric testing as described by WAC 296-817-400 is supervised and reviewed by one of the following licensed or certified individuals:

((–)) (a) An audiologist;

((–)) (b) An otolaryngologist;

((–)) (c) Another qualified physician.

((•)) (2) You must make sure audiograms are conducted by one of the above individuals or by a technician certified by the Council of Accreditation in Occupational Hearing Conservation (CAOHC) and responsible to a qualified reviewer.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-20035 Identify and correct deficiencies in your hearing loss prevention program. ((~~You must:~~

~~•~~)) (1) You must use audiometric testing to identify hearing loss, which may indicate program deficiencies.

((•)) (2) You must take appropriate actions when deficiencies are found with your program.

((–)) A deficiency may be indicated when:

((■)) (a) Any employee experiences measurable hearing loss indicated by a standard threshold shift((~~OR~~

■)); or

(b) Any employee is not wearing appropriate hearing protection during an audit when auditing is used in place of baseline audiograms

for short term employees (see WAC 296-817-500, Option to audiometric testing).

Note: 1. A standard threshold shift or audit deficiency does not necessarily indicate that a significant hearing loss has occurred.
2. These criteria are intended to help identify where there may be flaws in your hearing loss prevention program that can be fixed before permanent hearing loss occurs.
3. There are additional statistical tools and tests that may be used to improve the effectiveness of your program.
4. Staff conducting audiometric testing and auditing may be able to suggest additional ways to improve your hearing loss prevention program and tailor it to your worksite.

((~~You must:~~

~~•~~)) (3) You must evaluate the following, at a minimum, when responding to a standard threshold shift:

((~~–~~)) (a) Employee noise exposure measurements;

((~~–~~)) (b) Noise controls in the work area;

((~~–~~)) (c) The selection of hearing protection available and refit employees as necessary;

((~~–~~)) (d) Employee training on noise and the use of hearing protection and conduct additional training as necessary.

Reference: 1. You may use the option of auditing hearing protection (see WAC 296-817-500) for employees hired or transferred to jobs with noise exposure for less than one year.
2. You may also use audiograms provided by a third-party hearing loss prevention program in some circumstances.
3. Details of these program options are found in WAC 296-817-500, Options to audiometric testing.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-20040 Document your hearing loss prevention activities. ((~~You must:~~

~~•~~)) You must create and retain records documenting noise exposures. Include, at a minimum:

((~~–~~)) (1) Exposure measurements required by this chapter for at least two years and for as long as you rely upon them to determine employee exposure;

((~~–~~)) (2) Audiometric test records for the duration of employment for the affected employees;

((~~–~~)) (3) Hearing protection audits, if you choose to rely upon them, for the duration of employment of the affected employees.

Note: ((~~•~~)) 1. You need to keep as complete a record as possible. Records developed under previous rules or in other jurisdictions need to be kept, even when they do not fulfill the full requirements of this chapter.
2. Similarly, records found to have errors in collection or processing need to be kept if they provide an indication of employee exposure or medical condition not found in other records.
((~~•~~)) 3. You may want to consider your other business needs, such as worker's compensation claims management, before discarding these records.

Reference: You need to follow additional requirements for records considered employee exposure or medical records. See chapter 296-62 WAC, Part B, Access to records for requirements for access to records, employee rights, and transfer of records.

((~~NOISE MEASUREMENT AND COMPUTATION~~))

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-300 ((~~Summary.~~)) Noise measurement and computation. Summary

Your responsibility:

Conduct noise monitoring or measurement to evaluate employee exposures in your workplace.

((~~**You must:**~~

~~Make sure that noise-measuring equipment meets recognized standards~~

~~WAC 296-817-30005~~

~~Measure employee noise exposure~~

~~WAC 296-817-30010~~

~~Use these equations when estimating full-day noise exposure from sound level measurements~~

~~WAC 296-817-30015.~~))

You must meet the requirements…	in this section:
Make sure that noise-measuring equipment meets recognized standards	WAC 296-817-30005
Measure employee noise exposure	WAC 296-817-30010
Use these equations when estimating full-day noise exposure from sound level measurements	WAC 296-817-30015

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-30005 Make sure that noise-measuring equipment meets recognized standards. ((~~**You must:**~~

~~•~~)) (1) You must make sure that noise dosimetry equipment meets these specifications:

((~~–~~)) (a) Dosimeters must be equipment class 2AS-90/80-5 of the American National Rule Specification for Personal Noise Dosimeters, ANSI S1.25-1991((~~,~~)).

(b) Such dosimeters are normally marked "Type 2."

Note: Make sure any dosimeter you use is Type 2 equipment that:
((~~•~~)) 1. Uses slow integration and A-weighting of sound levels.
((~~•~~)) 2. Has the **criterion level** set to 90 dB, so the dosimeter will report a constant 8-hour exposure at 90 dBA as a 100% dose.
((~~•~~)) 3. Has the **threshold level** set at 80 dB, so the dosimeter will register all noise above 80 dB.
((~~•~~)) 4. Uses a 5 dB **exchange rate** for averaging of noise levels over the sample period.

((~~**You must:**~~

~~•~~)) (2) You must make sure that sound level meters meet these specifications:

((~~–~~)) (a) American National Standard Specification for Sound Level Meters, S1.4-1984, Type 2 requirements for sound level meters((~~,~~)).

(b) Such sound level meters are normally marked "Type 2."

((~~■~~)) (i) For continuous noise measurements, the meter must be capable of measuring A-weighted sound levels with slow response.

((■)) (ii) For impulse or impact noise measurements, the meter must be capable of indicating maximum C-weighted sound level measurements with fast response.

((•)) (3) Calibrate dosimeters and sound level meters used to monitor employee noise exposure:

((–)) (a) Before and after each day's use ((~~AND~~ –)); and

(b) Following the instrument manufacturer's calibration instructions.

Note: ((•)) 1. You may conduct dosimetry using an exchange rate less than 5 dB and compare the results directly to the noise evaluation criteria in Table 1.
((•)) 2. For measuring impulse and impact noise you may also use a sound level meter set to measure maximum impulse C-weighted sound levels or peak C-weighted sound levels.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-30010 Measure employee noise exposure.

((~~**IMPORTANT:**~~)) **Important:**

A noise dosimeter is the basis for determining total daily noise exposure for employees. However, where you have constant noise levels, you may estimate employee noise exposure using measurements from a sound level meter. Calculation of the employee noise exposure must be consistent with WAC 296-817-30015.

((~~**You must:**~~

•)) (1) You must include all:

((–)) (a) Workplace noise from equipment and machinery in use;

((–)) (b) Other noise from sources necessary to perform the work;

((–)) (c) Noise outside the control of the exposed employees.

((•)) (2) You must use a noise dosimeter when necessary to measure employee noise dose.

((•)) (3) You must use a sound level meter to evaluate continuous and impulse noise levels.

((•)) (4) You must identify all employees whose exposures equal or exceed the Noise Evaluation Criteria in Table 1:

Table 1
Noise Evaluation Criteria

Criteria	Description	Requirements
85 dBA TWA_8	Full-day employee noise exposure dose. If you have one or more employees whose exposure equals or exceeds this level, you must have a hearing loss prevention program.	((–)) Hearing protection ((–)) Training ((–)) Audiometric testing

Criteria	Description	Requirements
90 dBA TWA_8	Full-day employee noise exposure dose. If you have one or more employees whose exposure equals or exceeds this level, you must reduce employee noise exposures in the workplace.	Noise controls (in addition to the requirements for 85 dBA TWA_8)
115 dBA measured using slow response	Extreme noise level (greater than one second in duration).	((–)) Hearing protection ((–)) Signs posted in work areas warning of exposure
140 dBC measured using fast response	Extreme impulse or impact noise (less than one second in duration).	Hearing protection

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-30015 Use these equations when estimating full-day noise exposure from sound level measurements. ((~~You must:~~

~~•~~)) You must compute employee's full-day noise exposure by using the appropriate equations from Table ((~~3~~)) 2 "Noise Dose Computation" **when** using a sound level meter to estimate noise dose.

Table ((3)) 2
Noise Dose Computation

Description	Equation
Compute the noise dose based on several time periods of constant noise during the shift	The total noise dose over the work day, as a percentage, is given by the following equation where C_n indicates the total time of exposure at a specific noise level, and T_n indicates the reference duration for that level. ((~~$D = 100*((C_1/T_1) + (C_2/T_2) + (C_3/T_3) + ... + (C_n/T_n))$~~)) $D = 100 \times \left(\frac{C_1}{T_1} + \frac{C_2}{T_2} + \frac{C_3}{T_3} + ... + \frac{C_n}{T_n}\right)$
The reference duration is equal to the time of exposure to continuous noise at a specific sound level that will result in a one hundred percent dose	The reference duration, T, for sound level, L, is given in hours by the equation: ((~~T = 8/(2^((L - 90)/5))~~)) $T = \frac{8}{2^{\left(\frac{L-90}{5}\right)}}$

Description	Equation
Given a noise dose as a percentage, compute the equivalent eight-hour time weighted average noise level	The equivalent eight-hour time weighted average, TWA_8, is computed from the dose, D, by the equation: ((~~$TWA_8 = 16.61 * Log_{10}(D/100) + 90$~~)) $TWA_8 = 16.61 \times \log_{10}\left(\frac{D}{100}\right) + 90$

((~~AUDIOMETRIC TESTING~~))

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-400 ((~~Summary.~~)) Audiometric testing.

Summary

Your responsibility:

To conduct audiometric testing of employees exposed to noise to make sure that their hearing protection is effective.

((~~**You must:**~~

~~Provide audiometric testing at no cost to employees~~

~~WAC 296-817-40005~~

~~Establish a baseline audiogram for each exposed employee~~

~~WAC 296-817-40010~~

~~Conduct annual audiograms~~

~~WAC 296-817-40015~~

~~Review audiograms that indicate a standard threshold shift~~

~~WAC 296-817-40020~~

~~Keep the baseline audiogram without revision, unless annual audiograms indicate a persistent threshold shift or a significant improvement in hearing~~

~~WAC 296-817-40025~~

~~Make sure a record is kept of audiometric tests~~

~~WAC 296-817-40030~~

~~Make sure audiometric testing equipment meets these requirements~~

~~WAC 296-817-40035.~~))

You must meet the requirements…	in this section:
Provide audiometric testing at no cost to employees	WAC 296-817-40005
Establish a baseline audiogram for each exposed employee	WAC 296-817-40010
Conduct annual audiograms	WAC 296-817-40015

You must meet the requirements…	in this section:
Review audiograms that indicate a standard threshold shift	WAC 296-817-40020
Keep the baseline audiogram without revision, unless annual audiograms indicate a persistent threshold shift or a significant improvement in hearing	WAC 296-817-40025
Make sure a record is kept of audiometric tests	WAC 296-817-40030
Make sure audiometric testing equipment meets these requirements	WAC 296-817-40035

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-40005 Provide audiometric testing at no cost to employees. ((~~You must:~~

~~•~~)) You must provide audiograms, including any required travel or necessary additional examinations or testing, at no cost to exposed employees.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-40010 Establish a baseline audiogram for each exposed employee. ((~~You must:~~

~~•~~)) (1) You must conduct a baseline audiogram when an employee is first assigned to work involving noise exposures that equal or exceed 85 dBA TWA_8.

((~~–~~)) (a) Make sure this audiogram is completed no more than one hundred eighty days after the employee is first assigned ((~~OR~~

~~–~~)); or

(b) Make sure employee is covered by a hearing protection audit program (as described by WAC 296-817-500 and available as an alternative only for employees hired for less than one year).

Note: Employers who utilize mobile test units are allowed up to one year to obtain a valid baseline audiogram for each exposed employee. The employees must still be given training and hearing protection as required by this chapter.

((~~You must:~~

~~•~~)) (2) You must make sure employees are not exposed to workplace noise at least fourteen hours before testing to establish a baseline audiogram.

((~~–~~)) Hearing protectors may be used to accomplish this.

((~~•~~)) (3) You must notify employees of the need to avoid high levels of nonoccupational noise exposure (such as loud music, headphones, guns, power tools, motorcycles, etc.) during the fourteen-hour period immediately preceding the baseline audiometric examination.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-40015 Conduct annual audiograms. ((~~You must:~~

~~•~~)) (1) You must conduct annual audiograms for employees as long as they continue to be exposed to noise that equals or exceeds 85 dBA TWA_8.

Note: 1. Annual audiometric testing may be conducted at any time during the work shift. By conducting the annual audiogram during the work shift with the employee exposed to typical noise for their job, the test may record a temporary threshold shift.
2. This makes the test more sensitive to potential hearing loss and may help you improve employee protection before a permanent threshold shift occurs. A suspected temporary shift is one reason an employer may choose to retest employee hearing.

((~~You must:~~

~~•~~)) (2) You must make sure each employee is informed of the results of his or her audiometric test.

((–)) Include whether or not there has been a hearing level decrease or improvement since their previous test.

((~~•~~)) (3) You must make sure each employee's annual audiogram is compared to his or her baseline audiogram by an audiologist, otolaryngologist, another qualified physician, or the technician conducting the test to determine if a standard threshold shift has occurred.

((–)) If the annual audiogram indicates that an employee has suffered a standard threshold shift, you may obtain a retest within thirty days and consider the results of the retest as the annual audiogram.

((~~•~~)) (4) You must make sure that an audiologist, otolaryngologist, or other qualified physician sees any annual audiogram that indicates a standard threshold shift.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-40020 Review audiograms that indicate a standard threshold shift. ((~~You must:~~

~~•~~)) (1) You must make sure the health care professional supervising audiograms has:

((–)) (a) A copy of this chapter;

((–)) (b) The baseline audiogram and most recent audiogram of the employee to be evaluated;

((–)) (c) Background noise level records for the testing room;

((–)) (d) Calibration records for the audiometer.

((~~•~~)) (2) You must obtain an opinion from the health care professional supervising audiograms as to whether the audiograms indicate possible occupational hearing loss and any recommendations for changes in hearing protection.

((~~•~~)) (3) You must pay for any clinical audiological evaluation or otological examination required by the reviewer, if:

((–)) (a) Additional review is necessary to evaluate the cause of hearing loss ((~~OR~~

–)); or

(b) If there is indication of a medical condition of the ear caused or aggravated by the wearing of hearing protectors.

((~~•~~)) (4) You must inform the employee in writing of the existence of a standard threshold shift within twenty-one calendar days of the determination.

((~~•~~)) (5) You must make arrangements for the reviewer to communicate to the employee any suspected medical conditions that are found unrelated to your workplace. This information is confidential and must be handled appropriately.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-40025 Keep the baseline audiogram without revision, unless annual audiograms indicate a persistent threshold shift or a significant improvement in hearing. ((~~You must:~~

~~•~~)) You must keep the baseline audiogram without revision, unless a qualified reviewer determines:

((~~–~~)) (1) The standard threshold shift revealed by the audiogram is persistent ((~~OR~~

~~–~~)); or

(2) The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-40030 Make sure a record is kept of audiometric tests. ((~~You must:~~

~~•~~)) You must retain a legible copy of all employee audiograms conducted under this chapter.

((~~–~~)) Make sure the record includes:

((~~■~~)) (1) Name and job classification of the employee;

((~~■~~)) (2) Date of the audiogram;

((~~■~~)) (3) The examiner's name;

((~~■~~)) (4) Date of the last acoustic or exhaustive calibration of the audiometer;

((~~■~~)) (5) Employee's most recent noise exposure assessment;

((~~■~~)) (6) The background sound pressure levels in audiometric test rooms.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-40035 Make sure audiometric testing equipment meets these requirements. ((~~You must:~~

~~•~~)) (1) You must use pure tone, air conduction, hearing threshold examinations, with test frequencies including as a minimum 500, 1000, 2000, 3000, 4000, and 6000 Hz.

((–)) (a) Tests at each frequency must be taken separately for each ear;

((–)) (b) Supra-aural headphones must be used.

((•)) (2) You must conduct audiometric tests with audiometers (including microprocessor audiometers) that meet the specifications of, and are maintained and used according to, American National Standard Specification for Audiometers, S3.6-1996.

((•)) (3) You must check the functional operation of the audiometer each day before use by doing all of the following:

((–)) (a) Make sure the audiometer's output is free from distorted or unwanted sound;

((–)) (b) Test either a person with known, stable hearing thresholds or a bio-acoustic simulator;

((–)) (c) Perform acoustic calibration for deviations of 10 dB or greater.

((•)) (4) You must check audiometer calibration must be checked acoustically at least annually to verify continued conformance with ANSI S3.6-1996. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this check.

((•)) (5) You must perform an exhaustive calibration must be performed at least every two years according to the American National Standard Specification for Audiometers, S3.6-1996. Test frequencies below 500 Hz and above 6000 Hz may be omitted from the calibration.

((•)) (6) You must provide audiometric test rooms that meet the requirements of ANSI S3.1-1999 American National Standard Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms using the following table of maximum ambient sound pressure levels:

Table 4
Maximum Ambient Sound Pressure Levels

Frequency (Hz)	500	1000	2000	4000	8000
Sound Pressure Level (dB)	40	40	47	57	62

Note: The American Industrial Hygiene Association and National Hearing Conservation Association recommend conducting audiograms using the requirements of ANSI S3.1-1999 American National Standard Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms with adjustments at only 500 Hz and below.

((~~OPTIONS TO AUDIOMETRIC TESTING~~))

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-500 ((~~Summary.~~)) Options to audiometric testing. Summary
Your responsibility:

This section provides options to baseline audiometric testing for employees assigned to duties with noise exposures for **less than one year.** These program options may also be used to provide added assessment of longer-term employees in addition to audiometric testing.

The requirements of this section apply only if you decide to use auditing or a third-party hearing loss prevention program and do not conduct baseline audiometric testing for those employees.

Hearing Protection Audits

((~~**You must:**~~
~~Conduct hearing protection audits at least quarterly~~
~~WAC 296-817-50005~~
~~Make sure staff conducting audits are properly trained~~
~~WAC 296-817-50010~~
~~Assess the hearing protection used by each employee during audits~~
~~WAC 296-817-50015~~
~~Document your hearing protection audits~~
~~WAC 296-817-50020~~))

You must meet the requirements…	**in this section:**
Conduct hearing protection audits at least quarterly	WAC 296-817-50005
Make sure staff conducting audits are properly trained	WAC 296-817-50010
Assess the hearing protection used by each employee during audits	WAC 296-817-50015
Document your hearing protection audits	WAC 296-817-50020

Third-Party Audiometric Testing

((~~**You must:**~~
~~Make sure third-party hearing loss prevention programs meet the following requirements~~
~~WAC 296-817-50025~~
~~**IMPORTANT:**~~))

You must meet the requirements…	**in this section:**
Make sure third-party hearing loss prevention programs meet the following requirements	WAC 296-817-50025

Important:

1. **Hearing protection audits** are a tool for use in evaluating your hearing loss prevention program in cases where audiometric testing does not provide a useful measure. For example, if most of your employees are hired on a temporary basis for a few months at a time, audiometric testing may not identify the small changes in hearing acuity that could occur. Auditing provides an alternative to audiometric testing in these cases.

2. Auditing is not required unless you use it in place of baseline audiometric testing for employees hired for a period of **less than one year** and is permitted as a substitute for audiometric testing only for these employees.

3. **Third-party hearing loss prevention programs** are full hearing loss prevention programs and are distinct from audiometric testing provided by third parties as part of your own hearing loss prevention

program. These programs may be organized by labor groups, trade associations, labor-management cooperatives, or other organizations to:

((•)) (a) Cover a specific group of employees ((~~OR~~ •)); or

(b) Combine efforts for several employers with common employees.

4. Although you remain responsible for the program, third-party programs can have at least two benefits over running your own program:

((•)) (a) The audiometric testing is portable between the participating employers so new testing will not be needed when an employee changes employers;

((•)) (b) Employees who only work for short periods for any one employer can be monitored under the group program over a longer period of time increasing the effectiveness of the audiometric testing in preventing hearing loss for these employees.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-50005 Conduct hearing protection audits at least quarterly. ((~~You must:~~ •)) (1) You must conduct audits at least quarterly to provide a representative assessment of your workplace.

((–)) (a) The assessment is representative if it:

((■)) (i) Covers all processes and work activities in your business at full production levels ((~~AND~~ ■)); and

(ii) Covers all employees present on the audit day.

((–)) (b) If your business is mobile or involves variable processes, auditing may need to be repeated more often than quarterly.

((–)) (c) Auditing does not need to be repeated more than monthly as long as a reasonable effort is made to cover:

((■)) (i) The activities with greatest exposure ((~~AND~~ ■)); and

(ii) As many employees as possible.

((•)) (2) You must assess exposures and hearing protection for the full shift for each employee covered at the time of the audit.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-50010 Make sure staff conducting audits are properly trained. ((~~You must:~~ •)) You must make sure staff conducting hearing protection audits:

((–)) (1) Can demonstrate competence in:

((■)) (a) Evaluating hearing protection attenuation;

((■)) (b) Evaluating hearing protector choices;

((■)) (c) Assessing the correct use of hearing protectors.

((–)) (2) Are certified by the Council for Accreditation in Occupational Hearing Conservation (CAOHC) or have training in the following areas:

((■)) (a) Noise and hearing loss prevention;
((■)) (b) Washington state noise regulations;
((■)) (c) Hearing protectors;
((■)) (d) Fitting of hearing protectors;
((■)) (e) Basic noise measurement;
((■)) (f) Hearing loss prevention recordkeeping.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-50015 Assess the hearing protection used by each employee during audits. ((~~You must:~~
~~•~~)) You must confirm that:
((–)) (1) Current site conditions during audits are consistent with conditions existing during noise monitoring.
((–)) (2) The hearing protection used by the employee is sufficient and appropriate for the conditions.
((–)) (3) The hearing protection is worn properly.
((–)) (4) The employees are satisfied with the performance and comfort of the hearing protection.

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-50020 Document your hearing protection audits. ((~~You must:~~
~~•~~)) (1) You must keep a record of audit results for each employee assessed for the length of their employment and for the length of time you will rely upon the audit results.
((~~•~~)) (2) You must include the following information in the record:
((–)) (a) The make and model of the hearing protectors;
((–)) (b) The size of the protectors;
((–)) (c) Average noise exposure of the employee;
((–)) (d) Any problems found with use of the hearing protection;
((–)) (e) Any comments or complaints from the employee regarding the hearing protection.

((~~THIRD-PARTY AUDIOMETRIC TESTS~~))

AMENDATORY SECTION (Amending WSR 03-11-060, filed 5/19/03, effective 8/1/03)

WAC 296-817-50025 Make sure third-party hearing loss prevention programs meet the following requirements.

((~~IMPORTANT:~~)) **Important:**

Third-party hearing loss prevention programs are intended:

((~~•~~)) (1) For short-term employees hired or assigned to duties having noise exposures **for less than one year** ((~~AND~~

~~•~~)); and

(2) **For seasonal employees.**

However, other employees may be included as long as you meet all requirements for hearing loss follow-ups and recordkeeping.

((~~You must:~~

~~•~~)) (1) You must make sure that the third-party program is:

((~~–~~)) (a) Equivalent to an employer program as required by this chapter ((~~AND~~

~~–~~)); and

(b) Uses audiometric testing to evaluate hearing loss.

((~~•~~)) (2) You must make sure a licensed or certified audiologist, otolaryngologist, or other qualified physician administers the third-party program.

((~~•~~)) (3) You must make sure the third-party program has written procedures for:

((~~–~~)) (a) Communicating with participating employers of program requirements;

((~~–~~)) (b) Follow-up procedures for detected hearing loss;

((~~–~~)) (c) Annual review of participating employer programs.

((~~•~~)) (4) You must make sure the following program elements are corrected by you or the third-party program when deficiencies are found:

((~~–~~)) (a) Noise exposures;

((~~–~~)) (b) Hearing protection;

((~~–~~)) (c) Employee training;

((~~–~~)) (d) Noise controls.

((~~•~~)) (5) You must obtain a review of your hearing loss prevention program at least once per year, conducted by the third-party program administrator or their representative, in order to:

((~~–~~)) (a) Identify any tasks needing a revised selection of hearing protection ((~~AND~~

~~–~~)); and

(b) Provide an overall assessment of the employers' hearing loss prevention activities.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 296-817-600 Noise definitions.

NEW SECTION

WAC 296-823-099 Definitions.

Blood. Human blood, human blood components and products made from human blood. Also included are medications derived from blood, such as immune globulins, albumin, and factors 8 and 9.

Bloodborne pathogens. Pathogenic microorganisms that are present in human blood and can cause disease in humans. Examples of these pathogens include:

(a) Human immunodeficiency virus (HIV);
(b) Hepatitis B virus (HBV);
(c) Hepatitis C virus, malaria;
(d) Syphilis;
(e) Babesiosis;
(f) Brucellosis;
(g) Leptospirosis;
(h) Arboviral infections;
(i) Relapsing fever;
(j) Creutzfeld-Jakob Disease;
(k) Human T-lymphotrophic virus Type I;
(l) Viral Hemorrhagic Fever.

Clinical laboratory. A workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials (OPIM).

Contaminated. The presence or the reasonably anticipated presence of blood or other potentially infectious materials (OPIM) on an item or surface.

Contaminated laundry. Laundry that has been soiled with blood or other potentially infectious materials (OPIM) or may contain contaminated sharps.

Contaminated sharps. Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

Decontamination. The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Exposure incident. A specific eye, mouth, other mucous membrane, nonintact skin or parenteral contact with blood or other potentially infectious materials (OPIM) that results from the performance of an employee's duties. Examples of nonintact skin include skin with dermatitis, hangnails, cuts, abrasions, chafing, or acne.

Handwashing facilities. A facility providing an adequate supply of running potable water, soap and single-use towels or air drying machines.

Licensed health care professional. A person whose legally permitted scope of practice allows him or her to independently perform the activities required by this rule.

Needleless systems. A device that does not use needles for any of the following:

(a) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established;
(b) The administration of medication or fluids;

(c) Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

Occupational exposure. Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or OPIM that may result from the performance of an employee's duties.

Other potentially infectious materials (OPIM). Includes all of the following:

(a) Human body fluids: Semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

(b) Any unfixed tissue or organ (other than intact skin) from a human (living or dead).

(c) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

(d) Blood and tissues of experimental animals infected with bloodborne pathogens.

Parenteral contact. When mucous membranes or skin is pierced by needle sticks, human bites, cuts, or abrasions.

Personal protective equipment (PPE). Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (for example, uniforms, pants, shirts, or blouses) not intended to function as protection against a hazard are not considered to be PPE.

Production facility. A facility engaged in industrial-scale, large-volume or high-concentration production of HIV or HBV.

Regulated waste. Regulated waste is any of the following:

(a) Liquid or semiliquid blood or other potentially infectious materials (OPIM);

(b) Contaminated items that would release blood or OPIM in a liquid or semiliquid state, if compressed;

(c) Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling;

(d) Contaminated sharps;

(e) Pathological and microbiological wastes containing blood or OPIM.

Research laboratory. A laboratory producing or using research-laboratory-scale amounts of HIV or HBV. Research laboratories may produce high concentrations of HIV or HBV but not in the volume found in production facilities.

Safer medical devices. Medical devices that have been engineered to reduce the risk of needle sticks and other contaminated sharps injuries. These include not only sharps with engineered sharps injury protections and needleless systems but also other medical devices designed to reduce the risk of sharps injury exposures to bloodborne pathogens. Examples include blunt suture needles and plastic or Mylar-wrapped glass capillary tubes.

Secondary duty. Any job expectation outside the primary job duties assigned to that position.

Sharps with engineered sharps injury protections (SESIP). A non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other flu-

ids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

Source person. A person, living or dead, whose blood or other potentially infectious materials may be a source (OPIM) of occupational exposure to the employee. Examples include:

(a) Hospital and clinic patients;
(b) Clients in institutions for the developmentally disabled;
(c) Trauma victims;
(d) Clients of drug and alcohol treatment facilities;
(e) Residents of hospices and nursing homes;
(f) Human remains;
(g) Individuals who donate or sell blood or blood components.

Standard microbiological practices. Standard microbiological practices refer to procedures comparable to those outlined in the current edition of the Center for Disease Control "*Biosafety in Microbiological and Biomedical Laboratories*."

Sterilize. The use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal precautions. An approach to infection control. According to the concept of universal precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

Note: Universal Blood-Body Fluid Precautions, Body Substance Isolation, and Standard Precautions expand on the concept of universal precautions to include all body fluids and substances as infectious. These concepts are acceptable alternatives to universal precautions.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-100 Scope. This chapter provides requirements to protect employees from exposure to blood or other potentially infectious materials (OPIM) that may contain bloodborne pathogens. Examples of bloodborne pathogens are the human immunodeficiency virus (HIV) and hepatitis B virus (HBV).

This chapter applies to you if you have employees with occupational exposure to blood or OPIM, even if no actual exposure incidents have occurred.

((~~**Definitions:**~~

~~**Occupational exposure** means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or OPIM that may result from the performance of an employee's duties.~~

~~**Exposure incident** means a specific eye, mouth, other mucous membrane, nonintact skin or parenteral contact with blood or other potentially infectious materials (OPIM) that results from the performance of an employee's duties. Examples of nonintact skin include skin with dermatitis, hangnails, cuts, abrasions, chafing, or acne.~~

~~**Parenteral contact** occurs when mucous membranes or skin is pierced by needlesticks, human bites, cuts, or abrasions.~~))

Occupations that are typically covered by this chapter. The following list illustrates a number of jobs typically associated with tasks that involve occupational exposure to blood or OPIM. The absence of a particular job from the list does not suggest that it falls outside the scope of this chapter. At the same time, employees in jobs found on the list are covered only if they have occupational exposure.

((~~•~~)) (1) **Health care occupations.**

((–)) (a) Physicians and physicians assistants.

((–)) (b) Nurses, nurse practitioners, dental hygienists, and other health care employees in clinics and offices.

((–)) (c) Employees of clinical, dental, and diagnostic laboratories.

((–)) (d) Housekeepers in health care facilities.

((–)) (e) Staff in laundries that provide service to health care facilities.

((–)) (f) Tissue bank personnel.

((–)) (g) Employees in blood banks and plasma centers who collect, transport, and test blood.

((–)) (h) Freestanding clinic employees (for example, hemodialysis clinics, urgent care clinics, health maintenance organization (HMO) clinics, and family planning clinics).

((–)) (i) Employees in clinics in industrial, educational, and correctional facilities.

((–)) (j) Staff of institutions for the developmentally disabled.

((–)) (k) Hospice employees.

((–)) (l) Home health care workers.

((–)) (m) Staff of nursing homes and long-term care facilities.

((–)) (n) HIV and HBV research laboratory and production facility workers.

((–)) (o) Medical equipment service and repair personnel.

((–)) (p) Emergency medical technicians, paramedics, and other emergency medical service providers.

((–)) (q) Nuclear medical technologists.

((•)) (2) **Occupations outside health care.**

((–)) (a) Firefighters, law enforcement personnel, and correctional officers.

((–)) (b) Workers in laundries that service public safety institutions.

((–)) (c) Employees assigned to provide emergency first aid by their employer (as either a primary or secondary duty).

((–)) (d) Employees who handle or pick up regulated waste.

((–)) (e) Hotel/motel employees that clean up blood or OPIM.

((–)) (f) Employees of funeral homes and mortuaries.

((~~**Regulated waste.**~~

~~Regulated waste is any of the following:~~

~~• Liquid or semiliquid blood or other potentially infectious materials (OPIM)~~

~~• Contaminated items that would release blood or OPIM in a liquid or semiliquid state, if compressed~~

~~• Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling~~

~~• Contaminated sharps~~

~~• Pathological and microbiological wastes containing blood or OPIM.~~))

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-110 Planning.

Summary((~~.~~))

Your responsibility:

To plan ways to protect your employees from the risk of exposure to blood or other potentially infectious materials.

((~~You must:~~

~~Determine if you have employees with occupational exposure WAC 296-823-11005~~

~~Develop and implement a written exposure control plan WAC 296-823-11010.~~))

You must meet the requirements...	in this section:
Determine if you have employees with occupational exposure	WAC 296-823-11005
Develop and implement a written exposure control plan	WAC 296-823-11010

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-11005 Determine if you have employees with occupational exposure. ((~~You must:~~

~~•~~)) (1) You must prepare a written exposure determination if your employees have occupational exposure to blood or other potentially infectious materials (OPIM).

((~~–~~)) This determination must be made without considering the use of personal protective equipment (PPE).

((~~•~~)) (2) You must make sure the exposure determination contains:

((~~–~~)) (a) A list of job classifications where all employees have occupational exposure;

((~~–~~)) (b) A list of job classifications where some employees have occupational exposure and a description of all tasks and procedures or groups of related tasks and procedures with occupational exposure for these employees.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-11010 Develop and implement a written exposure control plan. ((~~You must:~~

~~•~~)) (1) You must establish a written exposure control plan designed to eliminate or minimize employee exposure in your workplace.

Note: The elements of your exposure control plan may be located in other documents such as policies and procedures. Make sure to reference their location in your plan.

((~~You must:~~

~~•~~)) (2) You must make sure the plan contains at least the following elements:

((~~–~~)) (a) The exposure determination, WAC 296-823-11005;

((~~–~~)) (b) A procedure for evaluating the circumstances surrounding exposure incidents, including documentation of the routes of expo-

sure, and the circumstances under which the exposure incident happened;

((–)) (c) How and when you will implement applicable requirements of this rule.

Note: The implementation dates need to be included only until your exposure control plan is fully implemented or when you are adding new requirements to your plan.

((~~You must:~~

~~•~~)) (3) You must document the infection control system used in your workplace to protect employees from exposure to blood or OPIM.

((–)) (4) You must use universal precautions or other at least as effective infection control systems.

Note: 1. Universal precautions is an infection control system that considers the blood and OPIM from all persons as containing a bloodborne disease, whether or not the person has been identified as having a bloodborne disease.
2. Other effective infection control systems include standard precautions, universal blood-body fluid precautions, and body substance isolation.
3. These methods define all body fluids and substances as infectious. They incorporate not only the fluids and materials covered by universal precautions and this chapter, but expand coverage to include all body fluids and substances.

((~~•~~)) (5) You must solicit input in the identification, evaluation, and selection of effective safer medical devices. This input must be solicited from nonmanagerial employees responsible for direct patient care with potential exposure to contaminated sharps.

((–)) (6) You must document the process you used to solicit input and include the identity of the employees or positions that were involved.

Note: ((•)) 1. You are not required to request input from every exposed employee; however, the employees selected must represent the range of exposure situations encountered in the workplace. Your safety committee may assist in identifying employees.
((•)) 2. Although you are required to include nonmanagerial employees, you are not prohibited from soliciting input from managerial and other employees.

((~~You must:~~

~~•~~)) (7) You must make sure the exposure control plan is reviewed and updated:

((–)) (a) At least annually ((~~AND~~

~~–~~)); and

(b) Whenever necessary to:

((■)) (i) Reflect new or modified tasks and procedures which affect occupational exposure;

((■)) (ii) Reflect new or revised job classifications with occupational exposure((~~.~~

~~◆~~));

(iii) Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens;

((~~◆~~)) (iv) Document consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

((~~•~~)) (8) You must make sure a copy of the exposure control plan is accessible at the workplace, when exposed employees are present. For example, if the plan is stored only on a computer, all exposed employees must be trained to operate the computer.

((~~•~~)) (9) You must make sure a copy of the plan is provided to the employee or their representative within fifteen days of their request for a copy.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-120 Training.

Summary((~~.~~))

Your responsibility:

To train your employees about their risk of exposure to bloodborne pathogens and ways to protect themselves.

((~~**You must:**~~

~~Provide training to your employees~~

~~WAC 296-823-12005~~

~~Provide additional training~~

~~WAC 296-823-12010~~

~~Maintain training records~~

~~WAC 296-823-12015.~~))

You must meet the requirements...	**in this section:**
Provide training to your employees	WAC 296-823-12005
Provide additional training	WAC 296-823-12010
Maintain training records	WAC 296-823-12015

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-12005 Provide training to your employees. ((~~**You must:**~~

~~•~~)) (1) You must make sure all employees with occupational exposure participate in a training program that is:

((–)) (a) Provided at no cost to them; and

((–)) (b) Conducted during compensated working hours.

((~~•~~)) (2) You must provide training when any of the following occur:

((–)) (a) Before assigning tasks where occupational exposure might occur;

((–)) (b) At least annually and within one year of the previous training.

((~~•~~)) (3) You must make sure the content and vocabulary of your training materials are appropriate to the educational level, literacy, and language of your employees.

((~~•~~)) (4) You must make sure the person conducting the required training is knowledgeable about the subject matter as it relates to your workplace.

((~~•~~)) (5) You must make sure the training program contains at least the following elements:

((–)) (a) An accessible copy of this chapter and an explanation of the contents;

((–)) (b) A general explanation of the epidemiology and symptoms of bloodborne diseases;

((–)) (c) An explanation of how bloodborne pathogens are transmitted;

((–)) (d) An explanation of your exposure control plan and how the employee can obtain a copy of the written plan;

((–)) (e) An explanation of how to recognize tasks and other activities that could involve exposure to blood and other potentially infectious materials (OPIM);

((–)) (f) An explanation of the use and limitations of methods that will prevent or reduce exposure including:

((•)) (i) Equipment and safer medical devices;

((•)) (ii) Work practices;

((•)) (iii) Personal protective equipment.

((–)) (g) Information about personal protective equipment (PPE) including:

((•)) (i) The types;

((•)) (ii) Proper use and limitations;

((•)) (iii) Selection;

((•)) (iv) Location;

((•)) (v) Putting it on and taking it off;

((•)) (vi) Handling;

((•)) (vii) Decontamination;

((•)) (viii) Disposal.

((–)) (h) Information about the hepatitis B vaccine, including:

((•)) (i) Information about its effectiveness;

((•)) (ii) Safety;

((•)) (iii) Method of administration;

((•)) (iv) The benefits of being vaccinated;

((•)) (v) Offered at no cost to the employee for the vaccine and vaccination.

((–)) (i) Information about what actions to take and persons to contact when exposure to blood or OPIM occurs outside of the normal scope of work;

((–)) (j) An explanation of the procedure to follow if an exposure incident occurs, including:

((•)) (i) The method of reporting the incident;

((•)) (ii) The medical evaluation and follow-up that will be available.

((–)) (k) Information about the post-exposure evaluation and follow-up procedure following an exposure incident;

((–)) (l) An explanation of the signs and labeling or color-coding required by this chapter;

((–)) (m) An opportunity for interactive questions and answers with the trainer at the time of the training session.

Note: This may be person-to-person, by telephone, or by e-mail, as long as the employee can both ask and receive answers during the training session.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-12010 Provide additional training. ((~~You must:~~ ~~•~~)) You must provide additional training when you add or change tasks or procedures that affect the employee's occupational exposure.

Note: This training may be limited to the changes in tasks and procedures.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-12015 Maintain training records. ((~~•~~)) (1) You must maintain training records for three years from the date of the training.

((~~•~~)) (2) You must include the following information in your training records:

((~~–~~)) (a) Dates of the training sessions;

((~~–~~)) (b) Contents or a summary of the training sessions;

((~~–~~)) (c) Names and qualifications of persons conducting the training;

((~~–~~)) (d) Names and job titles of all persons attending the training sessions.

((~~•~~)) (3) Provide these employee-training records upon request for examination and copying to any of the following:

((~~–~~)) (a) Employees;

((~~–~~)) (b) Employee representatives.

Helpful tool:

Training documentation

A training documentation form is provided for your use in the resource section of this chapter.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-130 Hepatitis B virus (HBV) vaccinations.

Summary((~~:~~))

Your responsibility:

To make the vaccination available to your employees so they are protected from the hepatitis B virus (HBV).

((~~**You must:**~~

~~Make hepatitis B vaccination available to employees~~

~~WAC 296-823-13005~~

~~Obtain a copy of the health care professional's written opinion for hepatitis B vaccination and provide it to the employee~~

~~WAC 296-823-13010.~~))

You must meet the requirements...	in this section:
Make hepatitis B vaccination available to employees	WAC 296-823-13005
Obtain a copy of the health care professional's written opinion for hepatitis B vaccination and provide it to the employee	WAC 296-823-13010

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-13005 Make hepatitis B vaccination available to employees.

((~~Exemption:~~)) EXEMPTION:

((~~•~~)) 1. You are not required to provide the hepatitis B vaccination series to employees who meet any of the following:

((–)) a. The employee has previously received the complete hepatitis B vaccination series;

((–)) b. An antibody test has revealed that the employee is immune to hepatitis B;

((–)) c. There are medical reasons not to give the vaccine.

((~~•~~)) 2. You are not required to provide the hepatitis B vaccination series to employees assigned to provide first aid only as a secondary duty, when you do all of the following:

((–)) a. Make hepatitis B vaccination available to all unvaccinated first-aid providers who render assistance in any situation involving the presence of blood or OPIM. ((■)) Vaccination must be made available as soon as possible, but no later than twenty-four hours after the incident((~~.~~));

((–)) b. Provide a reporting procedure that ensures all first-aid incidents that involve the presence of blood or OPIM are reported before the end of the work shift;

((–)) c. Document first-aid incidents that involve blood or OPIM, include at least:

((■)) i. The names of all first-aid providers who rendered assistance;

((■)) ii. The time and date of the first-aid incident;

((■)) iii. A description of the first-aid incident.

((~~•~~)) 3. Make sure that the hepatitis B vaccination series is available to all employees who have occupational exposure and that it is:

((–)) a. Available at no cost to the employee;

((–)) b. Available to the employee at a reasonable time and location;

((–)) c. Administered by or under the supervision of a licensed physician or by another licensed health care professional;

((–)) d. Provided according to recommendations of the United States Public Health Service that are current at the time these evaluations and procedures take place;

((–)) e. Available to any employee who initially declines the vaccination but later decides to accept it while they are still covered by this chapter;

((–)) f. Made available after the employee has received training required by this chapter and within ten working days of initial assignment.

((~~Link:~~)) Reference:

You can find more information about the United States Public Health Service recommendations for hepatitis B vaccination at http://www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm.

((~~**You must:**~~

~~•~~)) (1) You must make sure participation in a prevaccination screening program for antibody status is not a condition for receiving hepatitis B vaccination.

((•)) (2) You must make sure that all laboratory tests are conducted by a laboratory licensed by the state or Clinical Laboratory Improvement Amendments (act) (CLIA).

((•)) (3) Make sure employees who decline the hepatitis B vaccination, offered by you, sign a form with this statement:

"I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me."

Helpful tool:

Sample declination form:

The declination form can help you document employees who have declined the hepatitis B vaccine. You can find a copy of this form in the resource section of this chapter.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-13010 Obtain a copy of the health care professional's written opinion for hepatitis B vaccination and provide it to the employee. ((~~You must:~~

~~•~~)) (1) You must obtain and provide the employee a copy of the evaluating health care professional's written opinion for hepatitis B vaccination within fifteen days of the employee's evaluation.

Note: ((•)) 1. If the health care professional provides the written opinion directly to the employee, you do not need to do so.
((•)) 2. If the employee's personal health care professional completes the evaluation, you are not required to obtain the health care professional's written opinion.

((~~You must:~~

~~•~~)) (2) You must make sure the health care professional's written opinion is limited to whether a hepatitis B vaccination is indicated and if the employee has received this vaccination.

((•)) (3) You must make sure that all other findings or diagnoses remain confidential and are **not** included in the written report.

Reference: Requirements for the health care professional's written opinion on post-exposure evaluation can be found in WAC 296-823-16030.

Helpful tool:

Health care professional's written opinion for post-exposure evaluation and health care provider's written opinion for hepatitis B vaccination.

These forms are available for your use in the resource section of this chapter.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-140 Control employee exposure.

Summary((~~.~~))

Your responsibility:

To use feasible controls to eliminate or minimize occupational exposure to blood or other potentially infectious materials (OPIM).

((~~IMPORTANT:~~)) Important:

If occupational exposure remains after implementing these controls, personal protective equipment must be used. See WAC 296-823-150, Personal protective equipment.

((~~**You must:**~~

~~Use appropriate equipment and safer medical devices to eliminate or minimize occupational exposure~~

~~WAC 296-823-14005~~

~~Handle contaminated sharps properly and safely~~

~~WAC 296-823-14010~~

~~Handle reusable sharps properly and safely~~

~~WAC 296-823-14015~~

~~Minimize splashing, spraying, splattering and generation of droplets~~

~~WAC 296-823-14020~~

~~Make sure items are appropriately labeled~~

~~WAC 296-823-14025~~

~~Make sure employees clean their hands~~

~~WAC 296-823-14030~~

~~Prohibit food, drink, and other personal activities in the work area~~

~~WAC 296-823-14035~~

~~Prohibit pipetting or suctioning by mouth~~

~~WAC 296-823-14040~~

~~Place specimens in an appropriate container~~

~~WAC 296-823-14045~~

~~Examine and label contaminated equipment~~

~~WAC 296-823-14050~~

~~Make sure your worksite is maintained in a clean and sanitary condition~~

~~WAC 296-823-14055~~

~~Handle regulated waste properly and safely~~

~~WAC 296-823-14060~~

~~Handle contaminated laundry properly and safely~~

~~WAC 296-823-14065.~~))

You must meet the requirements...	**in this section:**
Use feasible controls, including appropriate equipment and safer medical devices, to eliminate or minimize occupational exposure	WAC 296-823-14005
Handle contaminated sharps properly and safely	WAC 296-823-14010
Handle reusable sharps properly and safely	WAC 296-823-14015

You must meet the requirements...	in this section:
Minimize splashing, spraying, splattering and generation of droplets	WAC 296-823-14020
Make sure items are appropriately labeled	WAC 296-823-14025
Make sure employees clean their hands	WAC 296-823-14030
Prohibit food, drink, and other personal activities in the work area	WAC 296-823-14035
Prohibit pipetting or suctioning by mouth	WAC 296-823-14040
Place specimens in an appropriate container	WAC 296-823-14045
Examine and label contaminated equipment	WAC 296-823-14050
Make sure your worksite is maintained in a clean and sanitary condition	WAC 296-823-14055
Handle regulated waste properly and safely	WAC 296-823-14060
Handle contaminated laundry properly and safely	WAC 296-823-14065

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-14005 Use feasible controls, including appropriate equipment and safer medical devices, to eliminate or minimize occupational exposure. ((~~You must:~~

~~•~~)) (1) You must use appropriate equipment and safer medical devices to eliminate or minimize employee exposure.

((~~•~~)) (2) You must use work practices designed to eliminate or minimize employee exposure.

((~~•~~)) (3) You must examine and maintain or replace equipment and safer medical devices on a regular schedule to make sure they remain effective.

Note: ((•)) 1. Examples of appropriate equipment include:
((–)) a. Sharps containers;
((–)) b. Biosafety cabinets;
((–)) c. Splash guards;
((–)) d. Centrifuge cups;
((–)) e. Specimen storage and transport containers.
((•)) 2. Examples of safer medical devices include:
((–)) a. Sharps with engineered sharps injury protections (SESIP);
((–)) b. Needleless systems;
((–)) c. Blunt suture needles;
((–)) d. Plastic capillary tubes.
((•)) 3. Examples of work practices include:
((–)) a. No-hands procedures in handling contaminated sharps;
((–)) b. No hand-to-hand instrument passing.

((~~**Definition:**~~ ~~**Sharps with engineered sharps injury protections (SESIP) is**~~
~~A nonneedle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.~~))

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-14010 Handle contaminated sharps properly and safely. ((~~You must:~~

~~•~~)) (1) You must make sure that you don't bend, recap, or remove contaminated needles or other contaminated sharps **unless** you can demonstrate that there is no feasible alternative or that it's required by a specific medical or dental procedure.

((–)) Bending, recapping or needle removal must be done by using a mechanical device or a one-handed technique.

Note: Demonstrating that no alternative to bending, recapping, or removing contaminated sharps is feasible, may be accomplished through written justification, supported by reliable evidence, in your exposure control plan.

((~~You must:~~

–)) (2) You must make sure you don't shear or break contaminated needles.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-14015 Handle reusable sharps properly and safely. ((~~You must:~~

–)) (1) You must place contaminated reusable sharps immediately, or as soon as possible after use, in appropriate containers until properly decontaminated. Containers must be all of the following:

((–)) (a) Puncture resistant;

((–)) (b) Labeled or color-coded as described in this chapter;

((–)) (c) Leakproof on the sides and bottom;

((–)) (d) Meet the same requirements as the container for disposable sharps, except they do not need to be closable.

((~~•~~)) (2) You must store or process contaminated reusable sharps so employees aren't required to reach into the container or sink by hand.

((~~•~~)) (3) You must make sure reusable sharps containers aren't opened, emptied, or cleaned manually or in any other manner that would expose employees to contaminated sharps.

Reference: Requirements for appropriate labels and color-coding are found in WAC 296-823-14025.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-14020 Minimize splashing, spraying, splattering, and generation of droplets. ((~~You must:~~

~~•~~)) You must make sure all procedures involving blood or OPIM are performed so splashing, spraying, spattering, and generation of droplets are minimized.

((–)) Examples include:

((■)) (1) Appropriate operation and use of recommended controls for surgical power tools, lasers and electrocautery devices.

((■)) (2) Use of personal protective equipment when contact with blood or OPIM is reasonably anticipated.

((■)) (3) Making sure cleaning procedures do not generate unnecessary splashes, spraying, spattering, or generation of droplets.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-14025 Make sure items are appropriately labeled.

((~~Exemptions:~~))
EXEMPTIONS:

The following are exempt from the labeling requirements of this chapter:

((•)) 1. Individual containers placed in an appropriately labeled secondary container.
((•)) 2. Regulated waste that has been decontaminated.
((•)) 3. Containers of blood, blood components, or blood products that are labeled with their contents and have been released for transfusion or other clinical use.
((•)) 4. Extracted teeth, gallstones, kidney stones, or other tissues and body substances that are given to patients.

((~~You must:~~

~~•~~)) (1) You must attach appropriate labels to:

((–)) (a) Containers used to store, transport, or ship blood or other potentially infectious materials (OPIM) including:

((■)) (i) Refrigerators;

((■)) (ii) Freezers.

((–)) (b) Sharps containers;

((–)) (c) Contaminated equipment;

((–)) (d) Laundry bags and containers;

((–)) (e) Specimen containers;

((–)) (f) Regulated waste containers.

((~~•~~)) (2) You must make sure that labels:

((■)) (a) Include the following symbol:

((■)) (b) Are all or mostly fluorescent orange or orange-red with lettering and symbol in a contrasting color.

((■)) (c) Are attached to the container by string, wire, adhesive, or other method so they can't become lost or accidentally removed.

Note: Red bags or red containers may be substituted for labels as long as they're:
((•)) 1. Covered in the exposure control plan.
((•)) 2. Communicated to all affected employees (including employees of laundry services, disposal services, and transport companies) whether they're your employees or not.
((•)) 3. The label does not always need to be attached to each individual container.
((•)) 4. For example, a cart carrying specimen containers could be labeled, rather than each individual container.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-14030 Make sure employees clean their hands. ((~~You must:~~)) (1) You must provide handwashing facilities that are readily accessible to employees, wherever feasible. If handwashing facilities are not feasible, provide either one of the following:

((~~-~~)) (a) Antiseptic towelettes;

((~~-~~)) (b) Antiseptic hand rub product along with clean cloth/paper towels.

(2) You must make sure employees clean their hands as soon as feasible after removing gloves and whenever there is the potential for contact with blood or other potentially infectious materials (OPIM).

(3) You must make sure employees do one of the following:

((~~•~~)) (a) Wash with soap and water;

((~~•~~)) (b) Use an appropriate waterless antiseptic hand rub product or towelettes, provided there are no signs of visible contamination;

((~~•~~)) (c) Use an appropriate waterless antiseptic hand rub product or towelettes followed by washing with soap and water as soon as possible, when hands are visibly contaminated and handwashing facilities are not immediately available.

Note: An appropriate waterless antiseptic hand rub product is one that contains a 60-95% alcohol solution (isopropanol or ethanol).

((~~**You must:**~~

~~(3)~~)) (4) You must make sure employees wash any skin with soap and water, or flush mucous membranes with water as soon as feasible following contact with blood or OPIM.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-14035 Prohibit food, drink, and other personal activities in the work area. ((~~**You must:**~~

~~•~~)) (1) You must make sure eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is occupational exposure.

((~~•~~)) (2) You must make sure food and drink are not kept in refrigerators, freezers, shelves, cabinets, or on countertops or benchtops where there is a potential for exposure to blood or other potentially infectious materials (OPIM).

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-14040 Prohibit pipetting or suctioning by mouth. ((~~**You must:**~~

~~•~~)) You must prohibit mouth pipetting or suctioning of blood or other potentially infectious materials (OPIM).

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-14045 Place specimens in an appropriate container. ((~~You must:~~

~~•~~)) (1) You must place specimens of blood or other potentially infectious materials (OPIM) in an appropriate container that prevents leakage during collection, handling, processing, storage, transport, or shipping.

((~~•~~)) (2) You must make sure the container is properly labeled or color-coded and closed before being stored, transported, or shipped.

((–)) (a) If outside contamination of the container occurs, the container must be placed inside a second container that prevents leakage and is properly labeled or color-coded;

((–)) (b) If the specimen could puncture the container, the container must be placed inside a second container that:

((■)) (i) Is puncture-resistant;

((■)) (ii) Prevents leakage during handling, processing, storage, transport, or shipping;

((■)) (iii) Is properly labeled or color-coded.

((~~Exemptions:~~))
EXEMPTIONS:
1. When your facility handles all specimens using universal precautions or other equivalent infection control systems, you don't have to label/color-code specimens as long as the containers can be recognized as containing specimens.
2. This exemption only applies while these specimens/containers remain within the facility. Proper labeling or color-coding is required when specimens/containers leave the facility.

Reference: Requirements for appropriate labels and color-coding are found in WAC 296-823-14025.

Helpful tool:
Guidance on the handling and storage of criminal evidence

This tool contains information about the handling and storage of criminal evidence. Criminal evidence contaminated with blood or OPIM is considered a specimen under the scope of this chapter. You can find a copy of this tool in the resource section of this chapter.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-14050 Examine and label contaminated equipment. ((~~You must:~~

~~•~~)) (1) You must examine equipment which could become contaminated with blood or other potentially infectious materials (OPIM) before servicing or shipping.

((–)) (a) Decontaminate this equipment and its parts as necessary unless you can demonstrate that decontamination isn't feasible.

((–)) (b) Attach an easily seen biohazard label to the equipment stating which portions remain contaminated.

Reference: Requirements for appropriate labels and color-coding are found in WAC 296-823-14025.

((~~You must:~~

~~•~~)) (2) You must make sure that information on contaminated equipment is communicated to all affected employees, the servicing representative, and the manufacturer as appropriate, prior to handling, servicing, or shipping so that appropriate precautions will be taken.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-14055 Make sure your worksite is maintained in a clean and sanitary condition. ((~~You must:~~)) (1) You must develop an appropriate written schedule for cleaning and decontamination based upon the following:

((–)) (a) The location within the facility;

((–)) (b) Type of surface to be cleaned;

((–)) (c) Type of contamination present;

((–)) (d) Tasks or procedures being performed in the area.

(2) You must clean and decontaminate environmental and working surfaces and all equipment after contact with blood or other potentially infectious materials (OPIM).

((•)) (3) You must decontaminate work surfaces with an appropriate disinfectant at these times:

((–)) (a) After completion of a procedure;

((–)) (b) Immediately or as soon as possible when surfaces are clearly contaminated or after any spill of blood or OPIM;

((–)) (c) At the end of the workshift if the surface could have become contaminated since the last cleaning.

((•)) (4) You must remove and replace protective coverings, such as plastic wrap, aluminum foil, or imperviously backed absorbent paper used to cover equipment and environmental surfaces, as soon as possible ((~~when they~~)):

((–)) (a) When they clearly become contaminated;

((–)) (b) At the end of the workshift if they could have become contaminated during the shift.

((•)) (5) You must inspect and clean (on a regularly scheduled basis) all bins, pails, cans, and similar receptacles intended for reuse that have a reasonable likelihood for becoming contaminated with blood or OPIM.

((–)) Clean and decontaminate these types of receptacles immediately or as soon as possible when they are visibly contaminated.

((•)) (6) You must use a brush and dustpan, tongs, forceps, or other mechanical means to clean up broken glassware that may be contaminated.

Note: 1. An appropriate disinfectant is one that is effective against tuberculosis or HBV and HIV such as:
((•)) a. Diluted bleach solution (1:10 or 1:100).
((–)) i. Use the 1:10 bleach solution for spills and the 1:100 bleach solution for routine cleaning.
((–)) ii. You can make your own bleach solution. Using household bleach (5.25% sodium hypochlorite) follow these directions:
((•)) iii. For a 1:100 solution add 2 teaspoons (10 ml) to a container, then add water to make a quart (946 ml).
iv. For a 1:10 solution, add 1/3 cup (79 ml) and 1 tablespoon (15 ml) in a container, then add water to make a quart (946 ml).
b. EPA registered:
((•)) i. EPA registered tuberculocidals (List B).
((•)) ii. Sterilants (List A).
((•)) iii. Products registered against HIV/HBV (List D).
2. Any of the above products are considered effective when used according to the manufacturers' instructions. Higher level disinfection may be required depending on the agent or level of decontamination.

((~~Link:~~)) Reference:

These lists are available from the EPA Office of Pesticides, antimicrobial pesticides web site at http://www.epa.gov/oppad001/((~~chemregindex.htm~~)).

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-14060 Handle regulated waste properly and safely. ((~~**Definition:**~~

~~Regulated waste is any of the following:~~

~~• Liquid or semiliquid blood or other potentially infectious materials (OPIM)~~

~~• Contaminated items that would release blood or OPIM in a liquid or semiliquid state, if compressed~~

~~• Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling~~

~~• Contaminated sharps~~

~~• Pathological and microbiological wastes containing blood or OPIM.~~

~~**You must:**~~

~~•~~)) (1) You must discard contaminated sharps immediately, or as soon as possible, in containers that are all of the following:

((–)) (a) Closable;

((–)) (b) Puncture resistant;

((–)) (c) Leakproof on sides and bottom;

((–)) (d) Appropriately labeled or color-coded;

((–)) (e) Easily accessible to personnel;

((–)) (f) Located as close as feasible to the immediate area where sharps are used or areas sharps can be reasonably anticipated to be found (for example, laundries);

((–)) (g) Maintained upright throughout use;

((–)) (h) Replaced routinely and not allowed to overfill.

((~~Exemptions:~~)) **EXEMPTIONS:** Work areas such as correctional facilities, psychiatric units, pediatric units, or residential homes may have difficulty placing sharps containers in the immediate use area. In such situations, alternatives such as using lockable containers or bringing containers in and out of the work area may be used.

Note: For additional information on placement and use of sharps containers see *Selecting, Evaluating, and Using Sharps Disposal Containers*, NIOSH Publication 97-111, January 1998. You can obtain a copy of this publication by calling 1-800-35-NIOSH or get an electronic version in pdf at ((~~http://www.cdc.gov/niosh/publistd.htm~~)) http://www.cdc.gov/niosh/docs/97-111/.

((~~**You must:**~~

~~•~~)) (2) You must make sure when you move containers of contaminated sharps, the containers are:

((–)) (a) Closed prior to removal or replacement to prevent spilling or protrusion of contents during handling, storage, transport, or shipping; and

((–)) (b) Placed in a secondary container, if leaking is possible. The second container must be:

((■)) (i) Closable;

((■)) (ii) Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping;

((■)) (iii) Appropriately labeled or color-coded.

((~~•~~)) (3) You must make sure regulated waste other than sharps is placed in containers that are all of the following:

((–)) (a) Closable;

((–)) (b) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport, or shipping;

((–)) (c) Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;

((–)) (d) Placed in a second container if outside contamination of the primary regulated waste container occurs.

((~~■ The second container must meet these requirements.~~

–)) (4) You must make sure the second container is appropriately labeled or color-coded.

((•)) (5) You must dispose of all regulated waste according to applicable state and county regulations.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-14065 Handle contaminated laundry properly and safely. ((~~You must:~~

~~•~~)) (1) You must handle laundry contaminated with blood or other potentially infectious material (OPIM) as little as possible and with a minimum of agitation.

((~~•~~)) (2) You must bag contaminated laundry or put it into a container at the location where it was used.

((–)) (a) Do not sort or rinse at the location of use.

((–)) (b) Place and transport contaminated laundry in bags or containers that are properly labeled or color-coded.

((–)) (c) If your facility ships contaminated laundry off-site to a second facility that doesn't use an infection control or isolation system when handling all of their soiled laundry, your facility must place the laundry in red bags or containers that are appropriately labeled.

Note: If your facility uses an infection control or isolation system in the handling of all soiled laundry, you can use alternative labeling or color-coding so employees recognize that the containers need to be handled using these precautions.

Reference: Requirements for appropriate labels and color-coding are found in WAC 296-823-14025 of this chapter.

((~~You must:~~

~~•~~)) (3) You must place and transport wet contaminated laundry that is likely to soak through or leak to the outside, in bags or containers that will prevent such leakage.

Reference: You need to follow additional requirements to make sure that employees who have contact with contaminated laundry wear protective gloves and other personal protective equipment (PPE) as appropriate, see WAC 296-823-150, Personal protective equipment.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-150 Personal protective equipment (PPE).

Summary((~~:~~))

Your responsibility:

To provide and make sure personal protective equipment is used when work practices and controls will not fully protect your employees from the risk of exposure to blood or other potentially infectious materials.

((~~You must:~~

~~Provide and make sure that personal protective equipment is used when there is occupational exposure~~

~~WAC 296-823-15005~~

~~Make sure gloves are worn~~

~~WAC 296-823-15010~~

~~Make sure masks, eye protection, and face shields are worn~~

~~WAC 296-823-15015~~

~~Wear appropriate protective clothing~~
~~WAC 296-823-15020~~
~~Make resuscitator devices available~~
~~WAC 296-823-15025~~
~~Maintain personal protective equipment~~
~~WAC 296-823-15030.~~))

You must meet the requirements...	in this section:
Provide and make sure personal protective equipment is used when there is occupational exposure	WAC 296-823-15005
Make sure gloves are worn	WAC 296-823-15010
Make sure appropriate masks, eye protection, and face shields are worn	WAC 296-823-15015
Wear appropriate protective clothing	WAC 296-823-15020
Make resuscitator devices available	WAC 296-823-15025
Maintain personal protective equipment	WAC 296-823-15030

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-15005 Provide and make sure personal protective equipment is used when there is occupational exposure. ((~~You must:~~

~~•~~)) (1) You must provide at no cost to employees, appropriate personal protective equipment such as:

((–)) (a) Gloves;

((–)) (b) Gowns;

((–)) (c) Laboratory coats;

((–)) (d) Face shields or a combination of masks and eye protection;

((–)) (e) Mouthpieces;

((–)) (f) Resuscitation bags;

((–)) (g) Pocket masks;

((–)) (h) Other ventilation devices.

Note: ((•)) PPE is considered "appropriate" only if it does NOT permit blood or other potentially infectious materials (OPIM) to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

((~~You must:~~

~~•~~)) (2) You must make sure that employees use appropriate PPE.

((–)) (a) In rare and extraordinary circumstances, employees can briefly and temporarily choose not to use PPE. If in their professional judgment, they believe that using PPE would prevent the delivery of health care or public safety services OR pose an increased hazard to themselves or co-workers.

((~~•~~)) (b) If the employee makes this judgment, you must investigate and document to determine if changes can be made to prevent future occurrences of the same situation.

((•)) (3) You must make sure that appropriate PPE, in sizes to fit your employees, is readily accessible at the worksite or issued to employees.

((•)) (4) You must make sure employees remove all PPE before leaving the work area.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-15010 Make sure gloves are worn. ((~~You must:~~

~~•~~)) (1) You must make sure gloves appropriate to the situation are worn when:

((–)) (a) It can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials (OPIM), mucous membranes, or skin that is not intact;

((–)) (b) Handling or touching contaminated items or surfaces;

((–)) (c) Performing vascular access procedures, for example, drawing blood or inserting an IV.

((~~You must:~~

~~•~~)) (2) You must do the following when you are an employer in a volunteer blood donation center and you make the judgment that employees do not require routine use of gloves when performing phlebotomies:

((–)) (a) Periodically reevaluate your decision not to require gloves;

((–)) (b) Make gloves available to all employees who wish to use them for phlebotomy (blood drawing);

((–)) (c) Do not discourage the use of gloves for phlebotomy;

((–)) (d) Require that gloves be used for phlebotomy in ANY of the following circumstances:

((■)) (i) When the employee has a cut, scratch, or other break in the skin of his or her hand or wrist;

((■)) (ii) When the employee judges that hand contamination with blood may occur; for example, when performing phlebotomy on an uncooperative individual;

((■)) (iii) When the employee is receiving training in phlebotomy.

((~~You must:~~

~~•~~)) (3) You must make sure employees who are allergic to the gloves that are normally provided have ready access to at least one of the following:

((–)) (a) Nonlatex gloves;

((–)) (b) Glove liners;

((–)) (c) Powderless gloves;

((–)) (d) Other similar alternatives.

((•)) (4) You must replace disposable (single use) gloves such as surgical or examination gloves:

((–)) (a) As soon as practical when contaminated;

((–)) (b) As soon as practical if they are torn or punctured;

((–)) (c) When their ability to function as a barrier is compromised.

((•)) (5) Make sure disposable (single use) gloves are used only once.

((~~•~~)) (6) Discard utility gloves if they are cracked, peeling, torn, punctured, or show other signs of deterioration or when their ability to function as a barrier is compromised.

((–)) You may decontaminate utility gloves for reuse if they can continue to function as a barrier.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-15015 Make sure appropriate masks, eye protection, and face shields are worn. ((~~**You must:**~~

~~•~~)) You must make sure either chin-length face shields or a combination of masks and eye protection are used, whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials (OPIM) may be generated and eyes, nose, or mouth contamination can be reasonably anticipated.

Note: Examples of eye protection devices include goggles and glasses with solid side shields.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-15020 Wear appropriate protective clothing. ((~~**You must:**~~

~~•~~)) (1) You must make sure appropriate protective clothing is worn when splashes to skin or clothes are reasonably anticipated. The type and characteristics will depend upon the sort of work being done and how much exposure is anticipated.

Note: Examples of protective clothing include:
((–)) 1. Gowns;
((–)) 2. Aprons;
((–)) 3. Lab coats;
((–)) 4. Clinic jackets;
((–)) 5. Similar outer garments;
((–)) 6. Surgical caps or hoods;
((–)) 7. Shoe covers or boots.

((~~**You must:**~~

~~•~~)) (2) You must remove a garment as soon as feasible if blood or other potentially infectious materials (OPIM) penetrate it.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-15025 Make resuscitator devices available. ((~~**You must:**~~

~~•~~)) You must make resuscitator (emergency ventilation) devices readily available and accessible to employees who can reasonably be expected to perform resuscitation procedures.

Note: Examples of resuscitator devices include:
((–)) 1. Masks;
((–)) 2. Mouthpieces;
((–)) 3. Resuscitation bags;

((–)) 4. Shields/overlay barriers.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-15030 Maintain personal protective equipment. ((~~You must:~~

~~•~~)) (1) You must clean, repair, replace, launder, and dispose of personal protective equipment required by this chapter, at no cost to the employee.

((~~•~~)) (2) You must make sure when PPE is removed, it is placed in an appropriately designated area or container for storage, washing, decontamination, or disposal.

Note: Contaminated personal clothing is considered PPE for the purposes of this section.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-160 Post-exposure requirements.

Summary((~~.~~))

Your responsibility:

To make sure employees who have been exposed to blood or other potentially infectious materials (OPIM) have appropriate post-exposure evaluation and follow-up available.

((~~**You must:**~~

~~Make a confidential medical evaluation and follow-up available to employees who experience an exposure incident~~

~~WAC 296-823-16005~~

~~Test the blood of the source person~~

~~WAC 296-823-16010~~

~~Provide the results of the source person's blood test to the exposed employee~~

~~WAC 296-823-16015~~

~~Collect and test the blood of the exposed employee~~

~~WAC 296-823-16020~~

~~Provide information to the health care professional evaluating the employee~~

~~WAC 296-823-16025~~

~~Obtain and provide a copy of the health care professional's written opinion on post-exposure evaluation to the employee~~

~~WAC 296-823-16030.~~))

You must meet the requirements…	**in this section:**
Make a confidential medical evaluation and follow-up available to employees who experience an exposure incident	WAC 296-823-16005
Test the blood of the source person	WAC 296-823-16010

You must meet the requirements…	in this section:
Provide the results of the source person's blood test to the exposed employee	WAC 296-823-16015
Collect and test the blood of the exposed employee	WAC 296-823-16020
Provide information to the health care professional evaluating the employee	WAC 296-823-16025
Obtain and provide a copy of the health care professional's written opinion on post-exposure evaluation to the employee	WAC 296-823-16030

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-16005 Make a confidential medical evaluation and follow-up available to employees who experience an exposure incident. ((~~**You must:**~~

~~•~~)) (1) You must make immediately available a confidential post-exposure evaluation and follow-up to all employees with occupational exposure to blood or OPIM who report an exposure incident.

((~~**Definition:**~~

~~**Exposure incident.** Means a specific eye, mouth, other mucous membrane, nonintact skin or parenteral contact with blood or other potentially infectious materials (OPIM) that results from the performance of an employee's duties. Examples of nonintact skin include skin with dermatitis, hangnails, cuts, abrasions, chafing, or acne.~~

~~**You must:**~~

~~•~~)) (2) You must make sure that the post-exposure medical evaluation and follow-up are all of the following:

((–)) (a) Immediately available following an exposure incident;

((–)) (b) Confidential;

((–)) (c) At no cost to the employee;

((–)) (d) At a reasonable time and place;

((–)) (e) Administered by or under the supervision of a licensed physician or by another licensed health care professional;

((–)) (f) Provided according to recommendations of the United States Public Health Service current at the time these evaluations and procedures take place.

((~~•~~)) (3) You must make sure that the evaluation and follow-up includes AT LEAST these elements:

((–)) (a) Documentation of the routes of exposure, and the circumstances under which the exposure incident happened;

((–)) (b) Identification and documentation of the source individual, unless you can establish that identification is infeasible or prohibited by state or local law;

((–)) (c) Collection and testing of blood to detect the presence of HBV and HIV;

((–)) (d) Post-exposure preventive treatment, when medically indicated, as recommended by the United States Public Health Service;

((–)) (e) Counseling;

((–)) (f) Evaluation of reported illnesses.

((•)) (4) You must make sure that all laboratory tests are conducted by a laboratory licensed by the state or Clinical Laboratory Improvement Amendments Act (CLIA).

Note: The employer or a third-party health care provider identified by the employer may do the evaluation.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-16010 Test the blood of the source person.

((~~Exemptions:~~)) When the source individual is already known to be infected with HBV or HIV, you do not need to test their status.

EXEMPTIONS:

((~~You must:~~

~~•~~)) You must arrange to test the source individual's blood for HBV and HIV as soon as feasible after getting their consent.

((–)) (1) If you do not get consent, you must establish that legally required consent can not be obtained.

((–)) (2) When the law does not require the source individual's consent, their blood, if available, must be tested and the results documented.

Note: ((•)) 1. Your local health authority enforces rules regarding HIV testing and consent which are found in WAC 246-100-206, Special diseases—Sexually transmitted diseases, and WAC 246-100-207, Human immunodeficiency virus (HIV) testing.
These rules can be found at: http://www.leg.wa.gov/wac and click on Title 246 WAC.
((•)) 2. Source testing: According to the Centers for Disease Control and Prevention (CDC), hepatitis C virus (HCV) infection is the most common chronic bloodborne infection in the United States. The CDC recommends testing of the source person for the presence of anti-HCV antibody. (Updated *U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis*, MMWR, June 29, 2000/50(RR11); 1-42.)

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-16015 Provide the results of the source person's blood test to the exposed employee. ((~~You must:~~

~~•~~)) (1) You must make sure the results of the source person's blood test are provided to the exposed employee, if possible.

((~~•~~)) (2) You must make sure the exposed employee is informed of applicable laws and regulations regarding disclosure of the identity and infection status of the source person.

Note: Law and regulations that currently apply are:
((–)) 1. Chapter 70.02 RCW, Medical records—Health care information access and disclosure.
((–)) 2. Chapter 70.24 RCW, Control and treatment of sexually transmitted diseases.
((–)) 3. Both rules can be found at http://www.leg.wa.gov/wac and click on ((~~Title 70 WAC [Title 70 RCW]~~)) Title 70 RCW to find these rules.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-16020 Collect and test the blood of the exposed employee. ((~~You must:~~

((•)) You must arrange to have the exposed employee's blood collected and tested as soon as feasible after consent is obtained.

((–)) (1) If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample must be preserved for at least ninety days.

(2) If, within ninety days of the exposure incident, the employee chooses to have the baseline sample tested, it must be done as soon as possible.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-16025 Provide information to the health care professional evaluating the employee. ((~~You must:~~

((•)) You must provide ALL of the following information to the health care professional evaluating an employee after an exposure incident:

((–)) (1) A copy of WAC 296-823-160;

((–)) (2) A description of the job duties the exposed employee was performing when exposed;

((–)) (3) Documentation of the routes of exposure and circumstances under which exposure occurred;

((–)) (4) Results of the source person's blood testing, if available;

((–)) (5) All medical records that you are responsible to maintain, including vaccination status, relevant to the appropriate treatment of the employee.

Reference: Requirements for the health care professional's written opinion for hepatitis B vaccinations can be found in WAC 296-823-13010.

Note: You may meet the requirement to provide a copy of WAC 296-823-160 to the health care professional by giving them the http://www.lni.wa.gov/rules/, as long as their office has a computer and access to the labor and industries' web site.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-16030 Obtain and provide a copy of the health care professional's written opinion on post-exposure evaluation to the employee. ((~~You must:~~

((•)) (1) You must obtain and provide to the employee a copy of the evaluating health care professional's written opinion within fifteen days of the completion of their evaluation.

Note: ((•)) 1. If the health care professional provides the written opinion directly to the employee, you do not need to do so.
((•)) 2. If the employee's personal health care professional completes the evaluation, you are not required to obtain the health care professional's written opinion.

((•)) (2) You must make sure the health care professional's written opinion is limited to the following information:

((–)) (a) That the employee has been informed of the results of the evaluation;

((–)) (b) That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials (OPIM) which need further evaluation or treatment.

((•)) (3) You must make sure that all other findings or diagnoses remain confidential and are NOT included in the written report.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-170 Records.
Summary((:))
Your responsibility:
To obtain and maintain required records.
((~~**You must:**~~
~~Establish and maintain medical records~~
~~WAC 296-823-17005~~
~~Maintain a sharps injury log~~
~~WAC 296-823-17010.~~))

You must meet the requirements…	in this section:
Establish and maintain medical records	WAC 296-823-17005
Maintain a sharps injury log	WAC 296-823-17010

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-17005 Establish and maintain medical records. ((~~**You must:**~~
~~•~~)) (1) You must establish and maintain an accurate medical record for each employee with occupational exposure.
((•)) (2) You must make sure this record includes ALL of the following that apply:
((–)) (a) Name and Social Security number of the employee;
((–)) (b) A copy of the employee's hepatitis B vaccination status, including the dates of all the hepatitis B vaccinations;
((–)) (c) Any medical records related to the employee's ability to receive vaccinations;
((–)) (d) The HBV declination statement;
((–)) (e) A copy of all results of examinations, medical testing, and follow-up procedures related to post-exposure evaluations;
((–)) (f) Your copy of the health care professional's written opinion;
((–)) (g) A copy of the information provided to the health care professional as required.
((•)) (3) You must make sure that employee medical records are:
((–)) (a) Kept confidential;
((–)) (b) Not disclosed or reported to any person, without the employee's written consent, except as required by this section or as may be required by law.

Note: ((•)) 1. In some industries, a medical record is also known as the employee health file.
((•)) 2. You may contract with the medical professional responsible for hepatitis B vaccination and post-exposure evaluation to maintain employee records.

Reference: You need to follow additional requirements for medical records found in WAC 296-62-052, Access to records.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-17010 Maintain a sharps injury log.

((~~Exemption:~~)) **EXEMPTION:** You are exempt from the requirements to record contaminated sharps injuries if you have ten or less employees.

((~~You must:~~

~~•~~)) (1) You must record contaminated sharps injuries on your OSHA 300 or equivalent log.

Reference: Requirements for the OSHA 300 log are found in chapter 296-27 WAC, Recordkeeping and reporting. ((~~http://www.lni.wa.gov/wisha/regs/WACS/27/27.htm.~~

~~You must:~~

~~•~~)) (2) You must record and maintain contaminated sharps injury information in a way that protects the confidentiality of the injured employee.

((~~•~~)) (3) You must also record the following additional information for contaminated sharps injuries:

((~~–~~)) (a) The type and brand of device involved in the incident;

((~~–~~)) (b) The department or work area where the exposure incident occurred;

((~~–~~)) (c) An explanation of how the incident occurred.

((~~•~~)) (4) You must maintain your contaminated sharps injury records for five years.

Note: You may record the additional information in any format you choose, such as on the OSHA 300 and 301 forms. It must be retrievable and identifiable to each specific injury.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-180 Additional requirements for HIV and HBV research laboratories and production facilities.

Summary((~~.~~))

Your responsibility:

To implement and enforce these additional rules in research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV.

((~~Exemption:~~)) **EXEMPTION:** This section does NOT apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs.

Note: Production and research facilities: Hepatitis C (HCV) is the virus involved in most cases of parenterally transmitted (bloodborne) non-A, non-B hepatitis in the United States. Most individuals who contract HCV become chronically infected (85%) and develop chronic hepatitis (70%). It is recommended that you also follow these requirements for HCV production and research facilities.

((~~You must:~~

~~Prepare, review and update a biosafety manual~~

~~WAC 296-823-18005~~

~~Follow these special practices for the work area~~

~~WAC 296-823-18010~~

~~Make sure these practices for contaminated material and waste are followed~~

~~WAC 296-823-18015~~

~~Make sure these special practices for personal protective equipment (PPE) and other safe guards are followed~~
~~WAC 296-823-18020~~
~~Protect vacuum lines~~
~~WAC 296-823-18025~~
~~Use and handle hypodermic needles and syringes appropriately and safely~~
~~WAC 296-823-18030~~
~~Handle all spills and accidents properly~~
~~WAC 296-823-18035~~
~~Post signs~~
~~WAC 296-823-18040~~
~~Provide additional training for facility employees~~
~~WAC 296-823-18045~~
~~Furnish a sink for washing hands and a readily available eye wash facility~~
~~WAC 296-823-18050~~
~~Make sure these additional criteria are followed~~
~~WAC 296-823-18055.~~))

You must meet the requirements…	**in this section:**
Prepare, review, and update a biosafety manual	WAC 296-823-18005
Follow these special practices for the work area	WAC 296-823-18010
Make sure these practices for contaminated material and waste are followed	WAC 296-823-18015
Make sure these special practices for personal protective equipment (PPE) and other safeguards are followed	WAC 296-823-18020
Protect vacuum lines	WAC 296-823-18025
Use and handle hypodermic needles and syringes appropriately and safely	WAC 296-823-18030
Handle all spills and accidents properly	WAC 296-823-18035
Post signs	WAC 296-823-18040
Provide additional training for facility employees	WAC 296-823-18045
Furnish a sink for washing hands and a readily available eye wash facility	WAC 296-823-18050
Make sure these additional criteria are followed for HIV and HBV production facilities	WAC 296-823-18055

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-18005 Prepare, review, and update a biosafety manual. ((~~You must:~~

~~•~~)) (1) You must prepare or adopt a biosafety manual. This manual must be:

((–)) (a) Periodically reviewed;

((–)) (b) Updated at least annually or more often, if necessary.

((~~•~~)) (2) You must make sure employees are:

((–)) (a) Advised of potential hazards;

((–)) (b) Required to read and follow instructions about practices and procedures.

((~~•~~)) (3) You must establish written policies and procedures where only authorized persons can enter work areas and animal rooms.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-18010 Follow these special practices for the work area. ((~~You must:~~

~~•~~)) (1) You must make sure only authorized persons are allowed to enter the work areas and animal rooms. Authorized persons must:

((–)) (a) Have been advised of the potential biohazard;

((–)) (b) Meet any specific entry requirements;

((–)) (c) Comply with all entry and exit procedures.

((~~•~~)) (2) Keep laboratory doors closed when work involving HIV or HBV is in progress.

AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-823-18015 Make sure these practices for contaminated material and waste are followed. ((~~You must:~~

~~•~~)) (1) You must incinerate or decontaminate all regulated waste by a method known to effectively destroy bloodborne pathogens, such as autoclaving.

((~~•~~)) (2) You must make sure to place materials to be decontaminated away from the work area in a container that is:

((–)) (a) Durable;

((–)) (b) Leakproof;

((–)) (c) Appropriately labeled, or color-coded;

((–)) (d) Closed before being removed from the work area.

Reference: You can find additional requirements for appropriate labels and color-coding in WAC 296-823-14025.

((~~You must:~~

~~•~~)) (3) You must incinerate or decontaminate ALL waste from work areas and from animal rooms before disposal.

((~~•~~)) (4) You must make sure an autoclave is available for decontamination of regulated waste.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-18020 Make sure these special practices for personal protective equipment (PPE) and other ((~~safe guards~~)) safeguards are followed. ((~~You must:~~

~~•~~)) (1) You must make sure appropriate personal protective clothing is used in work areas and animal rooms. Examples of appropriate personal protective clothing include:

((–)) (a) Laboratory coats;

((–)) (b) Gowns;

((–)) (c) Smocks;

((–)) (d) Uniforms.

((~~•~~)) (2) You must decontaminate protective clothing before it is laundered.

((~~•~~)) (3) You must make sure employees remove protective clothing before leaving their work area.

((~~•~~)) (4) You must take special care to avoid skin contact with other potentially infectious materials (OPIM).

((~~•~~)) (5) You must wear gloves when handling infected animals and when you can not avoid making hand contact with OPIM.

((~~•~~)) (6) You must conduct all activities involving OPIM in biological safety cabinets or other physical-containment devices within the containment module. No work with OPIM must be conducted on the open bench.

((–)) (a) Appropriate certified biological safety cabinets (Class I, II, or III) or personal protection or physical containment devices must be used for all activities with OPIM that pose a threat of exposure to droplets, splashes, spills, or aerosols.

(b) Appropriate personal protection and physical containment devices include:

((■)) (i) Special protective clothing;

((■)) (ii) Respirators;

((■)) (iii) Centrifuge safety cups;

((■)) (iv) Sealed centrifuge rotors;

((■)) (v) Containment caging for animals.

((–)) (c) Biological safety cabinets must be certified when installed or moved, and at least annually.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-18025 Protect vacuum lines. ((~~You must:~~

~~•~~)) You must protect vacuum lines with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or filters of same or greater efficiency. Make sure filters are checked routinely and maintained or replaced as necessary.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-18030 Use and handle hypodermic needles and syringes appropriately and safely. ((~~You must:~~

~~•~~)) You must use hypodermic needles and syringes only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles.

((–)) (1) Use only needle-locking syringes or disposable syringe-needle units (when the needle is integral to the syringe) for the injection or aspiration of other potentially infectious materials (OPIM).

((–)) (2) Use extreme caution when handling needles and syringes.

((–)) (3) The needle must not be bent, sheared, replaced in the sheath or guard, or removed from the syringe after use.

((–)) (4) Place the needle and syringe promptly in a puncture-resistant container and autoclave or decontaminate before reuse or disposal.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-18035 Handle all spills and accidents properly. ((~~You must:~~

~~•~~)) (1) You must make sure appropriate professional staff or others, properly trained and equipped to work with concentrated potentially infectious materials, immediately contain and clean up all spills.

((~~•~~)) (2) You must make sure that employees report a spill or accident that results in an exposure incident immediately to the laboratory director or other responsible person.

AMENDATORY SECTION (Amending WSR 03-09-110, filed 4/22/03, effective 8/1/03)

WAC 296-823-18040 Post signs. ((~~You must:~~

~~•~~)) (1) You must post signs at the entrance to work areas and all access doors when other potentially infectious materials (OPIM) or infected animals are present in the work area or containment module.

((~~•~~)) (2) You must make sure signs:

((–)) (a) Contain the following symbol and information:

(Name of the infectious agent.)
(Special requirements for entering the area.)
(Name, telephone number of the laboratory director or other responsible person.)

((~~(~~)) (b) Are all or mostly fluorescent orange-red with lettering and symbol in a contrasting color.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-18045 Provide additional training for facility employees. ((~~You must:~~

~~•~~)) (1) You must provide initial training to employees in HIV or HBV research laboratories or production facilities in addition to the training required in WAC 296-823-120.

((~~•~~)) (2) You must make sure that employees demonstrate proficiency in the following:

((~~–~~)) (a) Standard microbiological practices and techniques;

((~~–~~)) (b) The practices and operations specific to the facility BEFORE being allowed to work with HIV or HBV.

((~~•~~)) (3) You must provide a training program to employees working with HIV or HBV who have no prior experience in handling human pathogens.

((~~–~~)) (a) Initial work activities must not include the handling of infectious agents.

((~~–~~)) (b) A progression of work activities must be assigned as techniques are learned and proficiency is developed.

((~~•~~)) (4) You must make sure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

AMENDATORY SECTION (Amending WSR 04-12-070, filed 6/1/04, effective 9/1/04)

WAC 296-823-18050 Furnish a sink for washing hands and a readily available eye wash facility. ((~~You must:~~

~~•~~)) You must make sure each work area contains a sink for hand-washing and an eyewash facility is readily available.

((–)) For HIV and HBV production facilities, the sink must be operated automatically or by foot or elbow and must be located near the exit door of the work area.

Reference: Requirements for emergency eyewash stations can be found in WAC 296-800-15030.

AMENDATORY SECTION (Amending WSR 07-03-163, filed 1/24/07, effective 4/1/07)

WAC 296-823-18055 Make sure these additional criteria are followed for HIV and HBV production facilities. ((~~You must:~~

~~•~~)) (1) You must separate the HIV and HBV work areas from areas that are open to unrestricted traffic flow within the building.

((~~•~~)) (2) You must use two sets of doors to separate HIV and HBV work areas from access corridors or other contiguous areas.

Note: You may provide a physical separation of the high-containment work area from access corridors or other areas or activities by providing:
((–)) 1. A double-doored clothes-change room (showers may be included);
((–)) 2. Airlock ((~~OR~~)); or
((–)) 3. Other access facilities that require passing through two sets of doors before entering the work area.

((~~•~~)) (3) You must make sure the surfaces of doors, walls, floors, and ceilings in the work area are water resistant so they can be easily cleaned. These surfaces must be sealed or capable of being sealed to facilitate decontamination.

((~~•~~)) (4) You must make sure access doors to the work area or containment module are self-closing.

((~~•~~)) (5) You must provide a ducted exhaust-air ventilation system.

(a) This system must create directional airflow that draws air into the work area through the entry area and you must verify this airflow.

(b) The exhaust air must:

((–)) (i) NOT be recirculated to any other area of the building;

((–)) (ii) Be discharged to the outside;

((–)) (iii) Be dispersed away from occupied areas and air intakes.

((~~•~~)) (6) Make sure an autoclave for decontamination of regulated waste is available within or as near as possible to the work area.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 296-823-200 Definitions.

NEW SECTION

WAC 296-826-099 Definitions.

Appurtenance. All devices that are added onto the system such as pumps, compressors, safety relief devices, liquid-level gauging devices, valves, and pressure gauges.

Capacity. The total volume of the container measured in U.S. gallons, unless otherwise specified.

Container. All vessels, tanks, cylinders or spheres used for transportation, storage or application of anhydrous ammonia.

Cylinder. A container constructed according to the United States Department of Transportation specifications with a water capacity of one thousand pounds or less.

Design pressure. The same as the "maximum allowable working pressure" as used in the Unfired Pressure Vessel Code.

DOT regulations. The department of transportation (DOT) hazardous materials regulations and specifications for shipping containers found in Title 49—Transportation, Code of Federal Regulations, Parts 171 to 190, inclusive.

Filling density. The ratio of the weight of the gas in a container to the weight of water at 60°F that the container will hold. One lb. H_2O = 27.737 cu. in. at 60°F.

For determining the weight capacity of the tank in pounds, the weight of a gallon (231 cubic inches) of water at 60°F in air is 8.32828 pounds.

Gas. Anhydrous ammonia in either the gaseous or liquefied state.

Hydrostatic relief valve. An automatic pressure activated valve for liquid service.

(a) It is characterized by a throttle or slow weep opening, a nonpop-action.

(b) Refer to American National Standards Institute, *Terminology for Pressure Relief Devices*, B95.1, for more information.

"psig" and **"psia."** Abbreviations that mean the following:

(a) "psig" refers to pounds per square inch gauge.

(b) "psia" refers to absolute pounds per square inch.

Safety relief valve. An automatic spring loaded or equivalent type pressure activated device for gas or vapor service.

(a) It is characterized by a pop-action upon opening, and is sometimes referred to as a pop valve.

(b) Refer to American National Standards Institute, Terminology for Pressure Relief Devices, B95.1 for more information.

Semi-trailer. Every vehicle that meets both of the following:

(a) Designed for carrying property and for being drawn by a motor vehicle;

(b) Constructed so that some part of its weight and the weight of its load rests upon or is carried by another vehicle.

Systems. An assembly of equipment consisting of the container or containers, appurtenances, pumps, compressors, and interconnecting piping.

Tank motor vehicle. Any motor vehicle designed or used for the transportation of anhydrous ammonia that has either:

(a) A tank designed to be permanently attached to any motor vehicle; or

(b) A container that is not permanently attached but needs to be loaded and unloaded without being removed from the motor vehicle due to its size, construction, or means of attachment.

Trailer. Every vehicle meeting all of the following:

(a) Designed for carrying property and for being drawn by a motor vehicle;

(b) Constructed so that no part of its weight except the towing device rests on the towing vehicle.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-100 Scope. This chapter applies to employers who use, handle, store, distribute, or transport anhydrous ammonia.

((▲)) (1) Operations covered by this chapter include, but are not limited to:

((–)) (a) All distributors of anhydrous ammonia, including distributors who store and transport anhydrous ammonia on trucks delivering to a farm.

((–)) (b) Any employer who stores and handles anhydrous ammonia to use in water treatment plants, acid production, metal processing, pollution control, or make products such as:

((■)) (i) Fertilizers;

((■)) (ii) Synthetic resins;

((■)) (iii) Plastics and intermediates;

((■)) (iv) Hexamine for explosives;

((■)) (v) Dyes;

((■)) (vi) Insecticides.

((▲)) (2) Operations not covered by this chapter include:

((–)) (a) The manufacture of anhydrous ammonia.

((–)) (b) Mechanical refrigeration systems where ammonia is used solely as a refrigerant.

((–)) (c) Pipelines transporting anhydrous ammonia into or out of a storage facility.

((–)) (d) Agricultural operations within the scope of chapter 296-307 WAC. When a distributor delivers anhydrous ammonia to a farmer, the requirements for agricultural operations apply:

((■)) (i) As soon as the farmer takes possession of the truck or equipment containing ammonia from the distributor, this includes the farmer picking up the farm truck or equipment from the distributor.

((■)) (ii) An ammonia distributor begins performing agricultural operations using their ammonia at the farm.

References:

((▲)) 1. For requirements on agricultural operations using anhydrous ammonia, go to Part U-1 of chapter 296-307 WAC.

((▲)) 2. If you use, handle, store, distribute, or transport anhydrous ammonia in quantities of 10,000 pounds or more, follow the requirements found in another chapter, Process safety management of highly hazardous chemicals, chapter 296-67 WAC.

((▲)) 3. To protect employees handling ammonia, in addition to this chapter, you will need the following requirements found in other chapters:

((–)) a. The following sections from the Safety and health core rules, chapter 296-800 WAC:

((■)) i. Accident prevention program, WAC 296-800-140;

((■)) ii. Emergency washing, WAC 296-800-150;

((■)) iii. Personal protective equipment, WAC 296-800-160.

((–)) b. Emergency response, chapter 296-824 WAC;

((–)) c. Respiratory hazards, chapter 296-841 WAC;

((–)) d. Respirators, chapter 296-842 WAC.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-200 Employee safety.

Your responsibility:

To protect employees who use, handle, store, distribute, or transport anhydrous ammonia.

((~~Personal protective equipment (PPE)~~
~~WAC 296-826-20005~~
~~Training~~
~~WAC 296-826-20010~~
~~Chemical reactions~~
~~WAC 296-826-20015~~
~~Emergencies~~
~~WAC 296-826-20020~~))

You must meet the requirements…	in this section:
Personal protective equipment (PPE)	WAC 296-826-20005
Training	WAC 296-826-20010
Chemical reactions	WAC 296-826-20015
Emergencies	WAC 296-826-20020

AMENDATORY SECTION (Amending WSR 09-05-071, filed 2/17/09, effective 4/1/09)

WAC 296-826-20005 Personal protective equipment (PPE). ((~~**You must:**~~

~~•~~)) (1) You must provide the following PPE, at no cost to employees, at all stationary storage installations:

((–)) (a) Two respirators in readily accessible locations as required by WAC 296-842, Respirators.

((–)) (b) One pair of protective gloves, boots, pants, a protective slicker, and a jacket made of:

((■)) (i) Rubber; ((~~**OR**~~

■)) or

(ii) Other material that can not be penetrated by ammonia.

((–)) (c) Tight fitting vented goggles and one full face shield.

((–)) (d) An easily accessible shower or fifty gallons of clean water in an open top container.

((~~•~~)) (2) You must equip tank motor vehicles with all of the following equipment for emergency purposes:

((–)) (a) At least five gallons of water to flush liquid ammonia from skin or eyes.

((–)) (b) Respiratory equipment suitable for anhydrous ammonia as required by chapter 296-842 WAC, Respirators.

((–)) (c) A pair of protective gloves made of neoprene rubber or other material that cannot be penetrated by ammonia.

((–)) (d) Tight fitting goggles and a full-face shield.

Note: Additional safety equipment is recommended when more than one employee is present.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-20010 Training. ((~~You must:~~

~~•~~)) You must train employees who handle ammonia on all of the following:

((–)) (1) Safe operating practices;

((–)) (2) Emergency procedures;

((–)) (3) Proper use of personal protective equipment (PPE).

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-20015 Chemical reactions. ((~~You must:~~

~~•~~)) You must prohibit the use of ammonia with other chemicals unless the possible reactions have been adequately investigated.

Note: ((•)) Under some circumstances, ammonia and ammonium compounds can form explosive products with other chemicals. For additional information, refer to the following:

((–)) 1. Section 491M "*Manual on Hazardous Chemical Reactions*" of the NFPA, 1969 Edition; ((~~AND~~)) and

((–)) 2. CG-388, the "*Chemical Data Guide for Bulk Shipment by Water*," 1969.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-20020 Emergencies. ((~~You must:~~

~~•~~)) (1) You must make sure only trained personnel designated to respond if a leak occurs in an ammonia system do all of the following:

((–)) (a) Evacuate affected personnel to noncontaminated areas.

((–)) (b) Shut off appropriate valves.

((–)) (c) Put on all of the following PPE in concentrated ammonia atmospheres and in unknown concentrations of ammonia:

((■)) (i) Self-contained breathing apparatus (SCBA);

((■)) (ii) A plastic or rubber suit;

((■)) (iii) Gauntlet-type plastic or rubber gloves.

((~~•~~)) (2) You must make sure a physician treats all employees with eye injuries caused by liquid ammonia. In addition:

((–)) (a) Immediately flush liquid ammonia from skin or eyes continuously for a minimum of fifteen minutes using water or eye wash solutions as required by the safety and health core rules; First aid, WAC 296-800-150.

((–)) (b) Do not use neutralizing solutions or ointments on affected areas.

Note: ((•)) Drivers unable to stop a leak during transport should:

((–)) 1. Move the vehicle to an isolated area.

((–)) 2. Use the current *Department of Transportation (DOT) Emergency Response Guidebook* to establish safe distances to isolate a leaking tank from the driver and the public.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-300 Design, construction and installation.

Your responsibility:

To make sure containers and tanks used for storing, distributing, or transporting anhydrous ammonia meet design, construction and installation requirements.

Requirements for this topic…	begin in this section:
Container location and marking	WAC 296-826-30005
Nonrefrigerated containers	WAC 296-826-30040
Refrigerated tanks	WAC 296-826-30055

Container location and marking

((~~General specifications~~
~~WAC 296-826-30005~~
~~Specifications for portable DOT containers~~
~~WAC 296-826-30010~~
~~Nonrefrigerated stationary containers~~
~~WAC 296-826-30015~~
~~Refrigerated storage~~
~~WAC 296-826-30020~~
~~Systems mounted on trucks, semi-trailers, and trailers~~
~~WAC 296-826-30025~~
~~Systems mounted on farm trucks or trailers for transporting ammonia~~
~~WAC 296-826-30030~~
~~Systems mounted on farm equipment for ammonia application~~
~~WAC 296-826-30035~~
~~DOT containers~~
~~WAC 296-826-30040~~
~~Nonrefrigerated containers~~
~~Installation~~
~~WAC 296-826-30045~~
~~Reinstallation~~
~~WAC 296-826-30050~~
~~Refrigerated tanks~~
~~Installation~~
~~WAC 296-826-30055~~
~~Reinstallation~~
~~WAC 296-826-30060~~))

You must meet the requirements…	in this section:
General specifications	WAC 296-826-30005
Specifications for portable DOT containers	WAC 296-826-30010
Nonrefrigerated stationary containers	WAC 296-826-30015
Refrigerated storage	WAC 296-826-30020
Systems mounted on trucks, semi-trailers, and trailers	WAC 296-826-30025

You must meet the requirements…	in this section:
Systems mounted on farm trucks or trailers for transporting ammonia	WAC 296-826-30030
Systems mounted on farm equipment for ammonia application	WAC 296-826-30035

((~~CONTAINER LOCATION AND MARKING~~))

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30005 General specifications. ((~~You must:~~

~~•~~)) (1) You must locate containers either:

((–)) (a) In buildings or parts of the building provided for ammonia storage; ((~~OR~~

–)) or

(b) Outside, away from densely populated areas.

((~~•~~)) (2) You must locate containers according to Table 1, Minimum Distances for Container Location.

Table 1
Minimum Distances for Container Location

	Minimum Distances (feet) from Container to:		
Nominal Capacity of Container	Line of Adjoining Property Which may be Built upon, Highways & Mainline of Railroad	Place of Public Assembly	Institution Occupancy
Over 500 to 2,000	25	150	250
Over 2,000 to 30,000	50	300	500
Over 30,000 to 100,000	50	450	750
Over 100,000	50	600	1,000

((~~You must:~~

~~•~~)) (3) You must make sure containers are located to meet all of the following:

((–)) (a) Away from readily ignitable materials such as weeds, long dry grass, and waste.

((–)) (b) So there is no adverse impact on employee health through unnecessary exposure.

((–)) (c) At least fifty feet away from dug wells and other sources of potable water.

((~~■ If the container is a part of a water treatment installation, then this requirement does not apply.~~))

EXCEPTION: If the container is a part of a water treatment installation, this requirement does not apply.

((~~•~~)) (4) You must maintain legibility of all container and valve markings.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30010 Specifications for portable DOT containers.

((~~IMPORTANT:~~)) Important:

This section applies to systems that use cylinders, portable tanks (DOT-51), or "ton containers" (DOT-106A, DOT-110A), constructed according to DOT specifications.

((~~**You must:**~~

~~•~~)) (1) You must locate containers aboveground, never buried below the ground.

((~~•~~)) (2) You must put containers on firm ground or secure them.

((~~•~~)) (3) You must guard against settling on the outlet piping by using a flexible connection or a special fitting.

((~~•~~)) (4) You must protect containers from all of the following:

((~~–~~)) (a) Ignitable debris;

((~~–~~)) (b) External damage including corrosion;

((~~–~~)) (c) Heat sources, like radiant flames and steam pipes;

((~~–~~)) (d) Moving vehicles.

((~~•~~)) (5) You must prohibit the use of heat to raise the container pressure.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30015 Nonrefrigerated stationary containers. ((~~**You must:**~~

~~•~~)) (1) You must construct and test containers according to the Unfired Pressure Vessel Code.

((~~•~~)) (2) You must make sure the minimum design pressure of the container is 250 psig.

((~~•~~)) (3) You must make sure all containers with a capacity exceeding two hundred fifty gallons are constructed to meet one or more of the following:

((~~–~~)) (a) Stress relieved after fabrication according to the Unfired Pressure Vessel Code;

((~~–~~)) (b) Have stress relieved cold-formed heads;

((~~–~~)) (c) Hot-formed heads.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30020 Refrigerated storage. ((~~**You must:**~~

~~•~~)) (1) You must make sure the minimum design temperature is the same as the refrigerated temperature of the tank.

((~~•~~)) (2) You must construct and test containers, with a design pressure exceeding 15 psig, according to the Unfired Pressure Vessel Code.

((~~•~~)) (3) You must select construction materials from those listed from *API Standard 620, 4th Edition 2002, Recommended Rules for Design and Construction of Large, Welded Low Pressure Storage Tanks*.

((~~•~~)) (4) You must construct tanks with a design pressure with 15 psig or less according to API Standard 620, 4th Edition, 2002.

((~~•~~)) (5) You must use ASME Code as a guide in the selection of austenitic steels or nonferrous materials, if used at the design temperature.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30025 Systems mounted on trucks, semi-trailers, and trailers. ((~~**You must:**~~

~~•~~)) (1) You must construct and test containers, when transported within the state of Washington, according to both of the following:

((~~–~~)) (a) A minimum design pressure of 250 psig;

((~~–~~)) (b) The Unfired Pressure Vessel Code.

((~~•~~)) (2) You must construct containers used for interstate transport according to DOT regulations.

((~~•~~)) (3) You must make sure the shell or head thickness of any container is at least 3/16 of an inch.

((~~•~~)) (4) You must make sure electrical lighting circuits meet all of the following:

((~~–~~)) (a) Have suitable over-current protection, such as fuses or automatic circuit breakers.

((~~–~~)) (b) Are suitably secured, insulated, and protected against physical damage.

((~~–~~)) (c) Have wiring with sufficient carrying capacity and mechanical strength.

((~~•~~)) (5) You must use only electric light.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30030 Systems mounted on farm trucks or trailers for transporting ammonia. ((~~**You must:**~~

~~•~~)) You must construct and test containers, with a design pressure exceeding 15 psig, according to the Unfired Pressure Vessel Code.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30035 Systems mounted on farm equipment for ammonia application. ((~~You must:~~

~~•~~)) You must construct and test containers according to the Unfired Pressure Vessel Code.

Nonrefrigerated containers.

You must meet the requirements…	in this section:
DOT containers	WAC 296-826-30040
Installation	WAC 296-826-30045
Reinstallation	WAC 296-826-30050

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30040 DOT containers. ((~~You must:~~

~~•~~)) You must make sure containers meet DOT specifications.

((~~NONREFRIGERATED CONTAINERS~~))

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30045 Installation. ((~~You must:~~

~~•~~)) (1) You must provide a minimum distance of five feet between aboveground and underground containers that have more than a twelve hundred gallon capacity each.

((~~•~~)) (2) You must protect containers from floating away, in areas with a potential for high flood waters, by providing either:

((~~–~~)) (a) Secure anchorage; ((~~OR~~

~~–~~)) or

(b) Adequate pier height.

((~~•~~)) (3) You must follow Table 2 for aboveground, nonrefrigerated containers.

Table 2
Aboveground Nonrefrigerated Container Requirements

If you have:	Then:
((~~Aboveground containers~~	~~Provide one of the following:~~ – ~~Substantial reinforced concrete footings and foundations~~ ~~OR~~ – ~~Structural steel supports mounted on reinforced concrete foundations.~~
	~~Make sure the reinforced concrete foundation meets all of the following:~~ – ~~Extends below the established frost line~~ – ~~Is of sufficient width and thickness to support the total weight of the containers and contents~~ – ~~Has the lowest point of the tank at least eighteen inches above the ground.~~
	~~Make sure the footings meet all of the following:~~ – ~~Extend below the established frost line~~ – ~~Are of sufficient width and thickness to support the total weight of the containers and contents.~~
~~Floating type foundations on containers installed aboveground~~	~~Make sure they are designed to adequately support the tank, contents, and pumping equipment.~~
~~A horizontal, aboveground container~~	~~Mount the container on a foundation that permits expansion and contraction.~~
	~~Prevent the weight of excessive loads from resting on the supporting portion of the shell.~~
	~~Provide saddle bearing that extends over at least one-third the circumference of the shell.~~
	~~Prevent corrosion on the portions of the container in contact with the foundations or saddles.~~))
Aboveground containers	Provide one of the following: 1. Substantial reinforced concrete footings and foundations; or 2. Structural steel supports mounted on reinforced concrete foundations.
	Make sure the reinforced concrete foundation meets all of the following: 1. Extends below the established frost line.

If you have:	Then:
	2. Is of sufficient width and thickness to support the total weight of the containers and contents. 3. Has the lowest point of the tank at least 18 inches above the ground.
	Make sure the footings meet all of the following: 1. Extend below the established frost line. 2. Are of sufficient width and thickness to support the total weight of the containers and contents.
Floating type foundations on containers installed aboveground	Make sure they are designed to adequately support the tank, contents, and pumping equipment.
A horizontal, aboveground container	Mount the container on a foundation that permits expansion and contraction. Prevent the weight of excessive loads from resting on the supporting portion of the shell. Provide saddle bearing that extends over at least 1/3 the circumference of the shell. Prevent corrosion on the portions of the container in contact with the foundations or saddles.

((~~You must:~~

~~•~~)) (4) You must follow Table 3 for underground, nonrefrigerated containers.

Table 3
Underground Nonrefrigerated Container Requirements

If you have:	Then:
((~~Underground containers~~	~~Set the containers on firm foundations or earth~~ ~~– Surround containers with soft earth or sand well tamped into place.~~
	~~Make sure the top of the container is at least one foot below the surface of the ground.~~ ~~– If ground conditions make this impractical, use precautions to prevent physical damage to the container.~~ ~~Exemption: It is not necessary to cover the portion of the container where a manhole and other connections are attached.~~

If you have:	Then:
	~~Securely anchor or weight containers when necessary to prevent floating.~~
	~~Have a protective corrosion resistant coating applied before it is placed underground that is both of the following:~~ – ~~Satisfactory to the authority having jurisdiction;~~ ~~AND~~ – ~~Equal to either hot dip galvanizing or two preliminary coatings of red lead followed by a heavy coating of coal tar or asphalt.~~
	~~Lower containers onto firm foundations without damaging the protective corrosion resistant coating.~~))
Underground containers	1. Set the containers on firm foundations or earth. 2. Surround containers with soft earth or sand well tamped into place. 3. Make sure the top of the container is at least 1 foot below the surface of the ground. 4. If ground conditions make this impractical, use precautions to prevent physical damage to the container. **Exemption:** It is not necessary to cover the portion of the container where a manhole and other connections are attached. 5. Securely anchor or weight containers when necessary to prevent floating. 6. Have a protective corrosion-resistant coating, applied before it is placed underground, that is both of the following: a. Satisfactory to the authority having jurisdiction; and b. Equal to either hot dip galvanizing or 2 preliminary coatings of red lead followed by a heavy coating of coal tar or asphalt. 7. Lower containers onto firm foundations without damaging the protective corrosion-resistant coating.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30050 Reinstallation. ((~~You must:~~

~~•~~)) (1) You must prohibit the reinstallation of nonrefrigerated, previously installed underground, containers unless they meet both of the following:

((~~–~~)) (a) Pass a hydrostatic pressure retest using the original pressure specified by the Unfired Pressure Vessel Code under which the tank was constructed; ((~~AND~~

~~–~~)) and

(b) Show no evidence of serious corrosion.

((~~•~~)) (2) You must maintain a corrosion resistant coating on reinstalled underground containers.

REFRIGERATED ((~~STORAGE~~)) TANKS

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30055 Installation. ((~~You must:~~

~~•~~))

You must meet the requirements…	in this section:
Installation	WAC 296-826-30055
Reinstallation	WAC 296-826-30060

(1) You must support tanks on noncombustible foundations designed for the type of tank.

((~~•~~)) (2) You must provide protection against flotation or other water damage, where high floodwater might occur.

((~~•~~)) (3) You must prevent the effects of freezing and consequent frost heaving, in tanks used for product storage at less than 32°F, by providing either support or heat supply.

((~~•~~)) (4) You must prevent accidental discharge of liquids from spreading into uncontrolled areas by providing, to the area surrounding a refrigerated tank or group of tanks, one of the following:

((~~–~~)) (a) A drainage system provided with at least a one percent slope that terminates in an impounding basin with a capacity as large as the largest tank served; ((~~OR~~

~~–~~)) or

(b) A diked enclosure with a capacity as large as the largest tank served.

((~~•~~)) (5) You must meet, when using a diked enclosure or an impounding basin in a drainage system, the following requirements:

((–)) (a) Make the wall ((~~is made~~)) of earth, steel, or concrete. If made of earth, meet both of the following:

((■)) (i) The top is flat and at least two feet wide; ((~~AND~~

■)) and

(ii) There is a stable slope consistent with the angle of the earth used.

((–)) (b) Design the wall to be both:

((■)) (i) Liquid tight; ((~~AND~~

■)) and

(ii) Able to withstand the hydrostatic pressure and the temperature.

((~~•~~)) (6) You must provide for drainage of rain water, that does not permit the release of ammonia, from diked or impounding areas.

Note: ((•)) 1. It is recommended that the ground in an impounding basin or within a diked enclosure be graded so that small spills or the early part of a large spill will accumulate at one side or corner contacting both:
((–)) a. A relatively small area of ground; ((~~AND~~)) and
((–)) b. Exposing a relatively small surface area for heat gain.
((•)) 2. Shallow channels in the ground surface or low curbs of earth can help guide the liquid to these low areas without contacting a large ground area.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-30060 Reinstallation. ((~~**You must:**~~

~~•~~)) You must make sure moved and reinstalled containers of a size to require field fabrication are reconstructed and reinspected to((~~÷~~

~~–~~)) meet the original Unfired Pressure Vessel Code under which the tank was manufactured and do the following according to the same code:

((■)) (1) A pressure retest;

((■)) (2) Any necessary rerating.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-400 Equipment and systems.

Your responsibility:

To make sure all equipment and systems are operated and maintained safely.

((~~Electrical~~

~~WAC 296-826-40005~~

~~Hose specifications~~

~~WAC 296-826-40010~~

~~Piping, tubing, and fittings~~

~~General requirements for all systems~~

~~WAC 296-826-40015~~

~~Nonrefrigerated systems~~

~~WAC 296-826-40020~~

~~Systems mounted on trucks, semi-trailers, and trailers~~

~~WAC 296-826-40025~~

~~Refrigeration storage~~

~~Refrigerated storage compressors~~

~~WAC 296-826-40030~~
~~Refrigeration load~~
~~WAC 296-826-40035~~
~~Separators for refrigerated storage~~
~~WAC 296-826-40040~~
~~Automatic control equipment for refrigerated storage~~
~~WAC 296-826-40045~~
~~Other refrigerated storage equipment~~
~~WAC 296-826-40050~~
~~Compressors for refrigerated systems~~
~~WAC 296-826-40055~~))

You must meet the requirements…	in this section:
Electrical	WAC 296-826-40005
Hose specifications	WAC 296-826-40010

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40005 Electrical. ((~~You must:~~
~~•~~)) (1) You must use electrical equipment and wiring on ammonia installations that is either of the following:
((–)) (a) General purpose; ((~~OR~~
–)) or
(b) Weather resistant.
((~~•~~)) (2) You must follow the electrical requirements found in another chapter, chapter 296-24 WAC, Part L for Class 1, Group D locations when the concentrations of ammonia in air are in excess of 16% by volume.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40010 Hose specifications. ((~~You must:~~
~~•~~)) (1) You must make sure hose used in ammonia service and subject to container pressure meets both of the following:
((–)) (a) The *Joint Rubber Manufacturers Association, RMA-IP-14, Specifications for Anhydrous Ammonia Hose* 7th Edition 2003; ((~~AND~~
–)) and
(b) The *Fertilizer Institute's* ((")) *Hose Specifications for Anhydrous Ammonia.*((")))
((~~•~~)) (2) You must make sure hose assemblies are able to withstand a 500 psig pressure test.
((~~•~~)) (3) You must follow Table 4 for hose specifications.

Table 4
Hose Specifications

If you have:	Then:
((~~Hose subject to container pressure~~	~~Design it with a minimum~~ ~~– Working pressure of 350 psig~~ ~~AND~~ ~~– Burst pressure of 1750 psig~~
~~Hose and their connections~~	~~Design them for the maximum low side working pressure when located on either:~~ ~~– The pressure reducing valves on devices discharging to atmospheric pressure;~~ ~~OR~~ ~~– The low pressure side of flow control.~~
	~~Design, construct, and install so there is no leakage when connected.~~
~~Liquid transfer hose that is not drained of liquid upon completion of transfer operations~~	~~Equip with an approved shut off valve at the discharge end.~~
	~~Prevent excessive hydrostatic pressure in the hose.~~
~~Hose with an outside diameter one-half inch and larger~~	~~Make sure the hose is marked and legible at five foot intervals.~~))
Hose subject to container pressure	Design it with a minimum working pressure of 350 psig; and Burst pressure of 1750 psig.
Hose and their connections	Design them for the maximum low side working pressure when located on either: 1. The pressure reducing valves on devices discharging to atmospheric pressure; or 2. The low pressure side of flow control. Design, construct, and install so there is no leakage when connected.
Liquid transfer hose that is not drained of liquid upon completion of transfer operations	Equip with an approved shut off valve at the discharge end. Prevent excessive hydrostatic pressure in the hose.
Hose with an outside diameter one-half inch and larger	Make sure the hose is marked and legible at 5-foot intervals.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40015 General requirements for all systems. ((~~You must:~~
~~•~~))

You must meet the requirements…	in this section:
General requirements for all systems	WAC 296-826-40015
Nonrefrigerated systems	WAC 296-826-40020
Systems mounted on trucks, semi-trailers, and trailers	WAC 296-826-40025

(1) You must prohibit the use of cast iron fittings.

((–)) The use of malleable or nodular iron such as Specification ASTM A47 or ASTM A395 is permitted.

((•)) (2) You must make sure all metal flexible connections for permanent installations have a minimum working pressure of 250 psig.

((•)) (3) You must make sure all pipes, tubes, and fittings used for ammonia service meet all of the following:

((–)) (a) Made of material with a design pressure at least equal to the maximum service pressure.

((–)) (b) Well supported and have provisions for all of the following:

((■)) (i) Expansion;

((■)) (ii) Contraction;

((■)) (iii) Vibration;

((■)) (iv) Jarring;

((■)) (v) Settling.

((•)) (4) You must protect all exposed pipes from damage resulting from undue strain including:

((–)) (a) Moving machinery;

((–)) (b) The presence of vehicles.

((•)) (5) You must use ammonia resistant joint compounds.

((•)) (6) You must make sure, after assembly, that all piping and tubing are leak free at a pressure not less than the normal operating pressure of the system.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40020 Nonrefrigerated systems. ((~~You must:~~
~~•~~)) (1) You must make sure piping on nonrefrigerated systems is:

((–)) (a) ASTM A-53-2004 Electrical Resistance Welded and Electric Flash Welded Pipe or equal. ((~~In addition piping needs to be:~~
■)) (b) At least schedule 80 when joints are threaded.

((■)) (c) At least schedule 40 when joints are either welded or welded and flanged.

((•)) (2) You must prohibit the use of piping or tubing made of any of the following:

((–)) (a) Brass;

((–)) (b) Copper;
((–)) (c) Galvanized steel.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40025 Systems mounted on trucks, semi-trailers, and trailers. ((~~You must:~~
~~•~~)) You must make sure all piping, tubing, and fittings are:
((–)) (1) Securely mounted;
((–)) (2) Protected against physical damage.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40030 Refrigerated storage compressors. ((~~You must:~~
~~•~~))

You must meet the requirements…	in this section:
Refrigerated storage compressors	WAC 296-826-40030
Refrigeration load	WAC 296-826-40035
Separators for refrigerated storage	WAC 296-826-40040
Automatic control equipment for refrigerated storage	WAC 296-826-40045
Other refrigerated storage equipment	WAC 296-826-40050
Compressors for refrigerated systems	WAC 296-826-40055

(1) You must make sure compressors have all of the following:
((–)) (a) Their own driving unit;
((–)) (b) Discharge pressure that is governed by the condensing conditions;
((–)) (c) Suitable compressor operation controls based on the load pressure in the container;
((–)) (d) At least two compressors either of which is of sufficient size to handle the intended loads;
((–)) (e) Standby equipment equal to the largest normally operating piece of equipment installed when more than two compressors are provided;
((–)) (f) Automatic controls installed to prohibit the operation of alternate compressors unless the controls will function with alternate compressors.
((~~•~~)) (2) You must make sure compressors are sized to operate with a suction pressure that is both of the following:
((–)) (a) At least ten percent below the minimum setting of the safety relief valves on the storage tank;

((–)) (b) Able to withstand one hundred twenty percent of the design pressure of the tank.

((•)) (3) You must install an oil separator of suitable size in the compressor discharge line that is both:

((–)) (a) Designed for at least 250 psig; ((~~AND~~ –)) and

(b) Equipped with a drain valve and gauging device.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40035 Refrigeration load. ((~~You must:~~ ~~•~~)) (1) You must make sure the total refrigeration load includes the loads imposed by all of the following:

((–)) (a) Heat flow into the container caused by the temperature difference between both:

((■)) (i) The ambient temperature; ((~~AND~~ ■)) and

(ii) The design storage temperature.

((–)) (b) Heat flow into the tank caused by maximum sun radiation.

((–)) (c) Filling the tank with ammonia warmer than the design storage temperature.

((•)) (2) You must provide emergency power capable of handling loads imposed by both of the following:

((–)) (a) The temperature difference between the ambient temperature and the design storage temperature; ((~~AND~~ –)) and

(b) Sun radiation.

Note: Emergency power is not necessary for facilities able to effectively vent vapors when the refrigeration system is not operating.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40040 Separators for refrigerated storage. ((~~You must:~~ ~~•~~)) You must install an entrainment separator, of suitable size and design pressure, in the compressor suction line that is equipped with both of the following:

((–)) (1) A drain valve; ((~~AND~~ –)) and

(2) A gauging device.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40045 Automatic control equipment for refrigerated storage. ((~~You must:~~

~~•~~)) (1) You must install an emergency alarm to detect minimum and maximum allowable operating pressure changes.

((~~•~~)) (2) You must install an emergency alarm and shut off in the condenser system to detect excess discharge pressure caused by the failure of the cooling medium.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40050 Other refrigerated storage equipment. ((~~**You must:**~~

~~•~~)) (1) You must discharge ammonia to storage by using either:

((~~–~~)) (a) A receiver with an automatic float valve; ((~~**OR**~~

~~–~~)) or

(b) A high pressure liquid drain trap of suitable capacity.

((~~•~~)) (2) You must make sure receivers are:

((~~–~~)) (a) Designed for at least 250 psig; ((~~**AND**~~

~~–~~)) and

(b) Equipped with all of the following:

((~~■~~)) (i) Necessary connections;

((~~■~~)) (ii) Safety relief valves;

((~~■~~)) (iii) Gauging devices.

((~~•~~)) (3) You must cover insulated containers and pipelines with material that meets all of the following:

((~~–~~)) (a) Thick enough for the temperatures it will be exposed to;

((~~–~~)) (b) Supported;

((~~–~~)) (c) Weather and fire resistant.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-40055 Compressors for refrigerated systems. ((~~**You must:**~~

~~•~~)) (1) You must make sure condensers are designed:

((~~–~~)) (a) For at least 250 psig; ((~~**AND**~~

~~–~~)) and

(b) To manually or automatically purge noncondensibles.

Note: ((~~•~~)) Condensers may be cooled by any of the following:
((~~–~~)) 1. Air;
((~~–~~)) 2. Water;
((~~–~~)) 3. Air and water.

((~~**You must:**~~

~~•~~)) (2) You must make sure compressors used for refrigerating ammonia meet all of the following:

((~~–~~)) (a) Are connected to plant piping with shut off valves located as close as practical to compressor connections.

((~~–~~)) (b) Have a safety relief valve that is both:

((~~■~~)) (i) Large enough to discharge the full capacity of the compressor; ((~~**AND**~~

~~■~~)) and

(ii) Connected to the discharge and placed before any shut off valve.

((–)) (c) Have an oil separator on the discharge side, where necessary to prevent contamination.

((–)) (d) Have a drainable liquid trap or other adequate method on the compressor suction to minimize the entry of liquids into the compressor.

((–)) (e) Pressure gauges on the suction and discharge ends graduated to at least one and one-half times the maximum pressure that can develop.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-500 Appurtenances.

Your responsibility:

To follow the requirements in this section when using appurtenances.

((~~Appurtenance requirements for all systems~~
~~WAC 296-826-50005~~
~~Nonrefrigerated stationary containers~~
~~WAC 296-826-50010~~
~~Refrigerated tanks~~
~~WAC 296-826-50015~~
~~Systems mounted on trucks, semi-trailers and trailers~~
~~WAC 296-826-50020~~
~~Systems mounted on farm trucks or trailers for transportation of ammonia~~
~~WAC 296-826-50025~~
~~Systems mounted on farm equipment for ammonia application~~
~~WAC 296-826-50030~~
~~Portable DOT containers~~
~~WAC 296-826-50035~~))

You must meet the requirements…	**in this section:**
Appurtenance requirements for all systems	WAC 296-826-50005
Nonrefrigerated stationary containers	WAC 296-826-50010
Refrigerated tanks	WAC 296-826-50015
Systems mounted on trucks, semi-trailers and trailers	WAC 296-826-50020
Systems mounted on farm trucks or trailers for transportation of ammonia	WAC 296-826-50025
Systems mounted on farm equipment for ammonia application	WAC 296-826-50030
Portable DOT containers	WAC 296-826-50035

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-50005 Appurtenance requirements for all systems. ((~~**Definition:**~~

~~Appurtenance means all devices such as pumps, compressor, safety relief devices, liquid-level gauging devices, valves and pressure gauges.~~

~~**You must:**~~

~~•~~)) (1) You must make sure each appurtenance installed before February 8, 1973, is determined to be safe by meeting one of the following:

((–)) (a) Approved, tested, and installed by either:

((■)) (i) The American National Standard for the Storage and Handling of Anhydrous Ammonia (in effect at the time of installation);

((■)) (ii) The Fertilizer Institute Standards for the Storage and Handling of Agricultural Anhydrous Ammonia (in effect at the time of installation).

((–)) (b) Accepted, certified, listed, or labeled, by a nationally recognized testing laboratory.

((–)) (c) Inspected or tested by a federal, state, municipal, or local authority responsible for enforcing occupational safety provisions, when no nationally recognized laboratory will provide approval.

((–)) (d) Tested and approved by a registered professional engineer or other qualified person if the system is a custom-designed or custom-built unit and no other recognized entity will provide approval.

((–)) (2) You must keep a document on file signed by the qualified person that indicates the unit is safe. Include the test bases, test data and results and the qualifications of the qualified person.

((~~**You must:**~~

~~•~~)) (3) You must make sure container appurtenances are both of the following:

((–)) (a) Designed for at least the working pressure for the portion of the system where installed; ((~~**AND**~~

~~–~~)) and

(b) Fabricated from materials suitable for anhydrous ammonia service.

((~~•~~)) (4) You must make sure fixed liquid level gauges, except on refrigerated storage:

((–)) (a) Are designed so the maximum volume of the container filled by liquid does not exceed eighty-five percent of its water capacity; ((~~**AND**~~

~~–~~)) and

(b) Have a coupling into which it is threaded that is placed at the eighty-five percent level of the container.

((■)) If located elsewhere, install the dip tube of this gauge so it can not be easily removed.

((~~•~~)) (5) You must equip each container, except those filled by weight, with an approved liquid level gauging device that does all of the following:

((–)) (a) Has a design pressure equal to or greater than the design pressure of the container;

((~~– Are~~)) (b) Is arranged so the maximum liquid fill level of containers can be readily determined.

((•)) (6) You must follow additional requirements found in Table 5, Appurtenance Requirements for all Systems.

Table 5
Appurtenance Requirements for all Systems

If you have:	Then make sure they:
((~~Safety relief devices~~	~~Do not have discharge termination in or beneath any building.~~
~~Safety relief valves~~	~~Have a flow capacity that is not restricted by any connection to it on either the upstream or downstream side.~~
~~Connections to containers~~	~~Have shut off valves located as close to the container as possible.~~ ~~Exemption: Safety relief devices, gauging devices or devices fitted with a No. 54 drill size hole are not required to have shut off valves located as close to the container as possible.~~
~~Connections and the line, including valves and fittings~~	~~Have a greater rated flow than the excess flow valves that protects them~~
~~Excess flow valves, where required~~	~~Meet all of the following:~~ • ~~Are designed with a bypass no larger than a No. 60 drill size opening to allow equalization of pressures.~~ • ~~Close automatically at the rated flow of vapor or liquid specified by the manufacturer.~~ • ~~Maintain legible markings.~~
~~Excess flow valves provided with shut off valves~~	~~Are designed to close if the shut off valve breaks during installation~~
~~Excess flow and back pressure check valves, where required~~	~~Are located either:~~ • ~~Inside the container;~~ ~~OR~~ • ~~Outside the container as long as the excess flow valve is:~~ – ~~As close as possible to the entrance of the line;~~ ~~AND~~

If you have:	Then make sure they:
	– ~~Installed without excessive stress that could result in breakage between the container and the valve.~~
~~Liquid level gauging devices that:~~ – ~~Require bleeding of the product into the atmosphere such as the rotary tube, fixed tube, and slip tube devices~~	~~Are either:~~ • ~~Designed so that the maximum opening of the bleed valve is not larger than No. 54 drill size;~~ ~~OR~~ • ~~Provided with an excess flow valve.~~ ~~Exemption:~~ – ~~If openings from the containers or through fittings are attached directly onto the container where pressure gauge connections are made, then there is no need for excess flow valves as long as the openings are not larger than a No. 54 drill size~~ – ~~This requirement does not apply to farm vehicles used for the application of ammonia as covered by WAC 296-826-50030.~~))
Safety relief devices	Do not have discharge termination in or beneath any building.
Safety relief valves	Have a flow capacity that is not restricted by any connection to it on either the upstream or downstream side.
Connections to containers	Have shut off valves located as close to the container as possible. **Exemption:** Safety relief devices, gauging devices or devices fitted with a No. 54 drill size hole are not required to have shut off valves located as close to the container as possible.
Connections and the line, including valves and fittings	Have a greater rated flow than the excess flow valves that protects them.
Excess flow valves, where required	Meet all of the following:

If you have:	Then make sure they:
	1. Are designed with a bypass no larger than a No. 60 drill size opening to allow equalization of pressures. 2. Close automatically at the rated flow of vapor or liquid specified by the manufacturer. 3. Maintain legible markings.
Excess flow valves provided with shut off valves	Are designed to close if the shut off valve breaks during installation.
Excess flow and back pressure check valves, where required	Are located either: 1. Inside the container; or 2. Outside the container as long as the excess flow valve is: a. As close as possible to the entrance of the line; and b. Installed without excessive stress that could result in breakage between the container and the valve.
Liquid level gauging devices that: Require bleeding of the product into the atmosphere such as the rotary tube, fixed tube, and slip tube devices	Are either: 1. Designed so that the maximum opening of the bleed valve is not larger than No. 54 drill size; or 2. Provided with an excess flow valve. **Exemption:** 1. If openings from the containers or through fittings are attached directly onto the container where pressure gauge connections are made, then there is no need for excess flow valves as long as the openings are not larger than a No. 54 drill size.

If you have:	Then make sure they:
	2. This requirement does not apply to farm vehicles used for the application of ammonia as covered by WAC 296-826-50030.

((~~You must:~~

~~•~~)) (7) You must follow Table 6, Safety Valve Start to Discharge Rate, and Table 7, Safety Relief Valve Rate of Discharge, for the following systems:

((–)) (a) Nonrefrigerated stationary containers;

((–)) (b) Mounted on trucks, semi-trailers, and trailers used for the transportation of ammonia;

((–)) (c) Mounted on farm wagons for the transportation of ammonia;

((–)) (d) Mounted on farm equipment for the application of ammonia.

((~~Exemption:~~))
EXEMPTION: The rate of discharge of spring-loaded safety relief valves installed on underground containers may be reduced to thirty percent of the rate of discharge specified in Table 6, Safety Relief Valve Rate of Discharge so long as the container is not uncovered after installation until the liquid ammonia has been removed.

Table 6
Safety Valve Start to Discharge Rate

Containers	Minimum	Maximum*
ASME U-68, U-69	110%	125%
ASME U-200, U-201	95%	100%
ASME 1952, 1956, 1959, 1962, 1965, 1968, or 1971	95%	100%
API-ASME	95%	100%
U.S. Coast Guard	(As required by U.S.C.G. regulations)	
DOT	(As required by DOT regulations)	

Note: A relief valve manufacturer's tolerance of plus ten percent is permitted.

Instructions are found below the table

Table 7
Safety Relief Valve Rate of Discharge

Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air
20	258	145	1,310	340	2,640	1,350	8,160
25	310	150	1,350	350	2,700	1,400	8,410
30	360	155	1,390	360	2,760	1,450	8,650
35	408	160	1,420	370	2,830	1,500	8,900
40	455	165	1,460	380	2,890	1,550	9,140
45	501	170	1,500	390	2,950	1,600	9,380
50	547	175	1,530	400	3,010	1,650	9,620
55	310	180	1,570	450	3,320	1,700	9,860
60	360	185	1,600	500	3,620	1,750	10,090
65	408	190	1,640	550	3,910	1,800	10,330
70	455	195	1,670	600	4,200	1,850	10,560

Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air
75	762	200	1,710	650	4,480	1,900	10,800
80	804	210	1,780	700	4,760	1,950	11,030
85	845	220	1,850	750	5,040	2,000	11,260
90	885	230	1,920	800	5,300	2,050	11,490
95	925	240	1,980	850	5,590	2,100	11,720
100	965	250	2,050	900	5,850	2,150	11,950
105	1,010	260	2,120	950	6,120	2,200	12,180
110	1,050	270	2,180	1,000	6,380	2,250	12,400
115	1,090	280	2,250	1,050	6,640	2,300	12,630
120	1,120	290	2,320	1,100	6,900	2,350	12,850
125	1,160	300	2,380	1,150	7,160	2,400	13,080
130	1,200	310	2,450	1,200	7,410	2,450	13,300
135	1,240	320	2,510	1,250	7,660	2,500	13,520
140	1,280	330	2,570	1,300	7,910		

Table instructions:

((•)) 1. The surface area = the total outside surface area of the container in square feet.

((–)) 2. When the surface area is not stamped on the name plate or the marking is not legible, calculate the area by using the Table 8, Surface Area.

Table 8
Surface Area

If you have:	Then calculate as follows:
Cylindrical container with hemispherical heads	Area = overall length in feet times the outside diameter in feet times 3.1416
Cylindrical container with other than hemispherical heads	Area = (overall length in feet plus 0.3 outside diameter in feet) times outside diameter in feet times 3.1416
Spherical container	Area = outside diameter in feet squared times 3.1416

((•)) Flow rate((—)): CFM air = cubic feet per minute of air required at standard conditions, 60°F and atmospheric pressure (14.7 psia).

((–)) 1. The rate of discharge may be altered for intermediate values of surface area.

((–)) 2. For containers with total outside surface area greater than 2,500 sq. ft., the required flow rate can be calculated using the formula, flow rate CFM air = 22.11 A0.82 where A = outside surface area of the container in square feet.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-50010 Nonrefrigerated stationary containers.

((~~IMPORTANT:~~)) **Important:**

In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

((~~You must:~~

~~•~~)) (1) You must make sure all containers are equipped with all of the following:

((–)) (a) An approved vapor return valve;

((–)) (b) A fixed maximum liquid level gauge;

((–)) (c) A pressure gauge that is both:

((■)) (i) Graduated from zero to 400 psig; ((~~AND~~

■)) and

(ii) Designed for use in ammonia service.

((~~•~~)) (2) You must provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers.

((~~•~~)) (3) You must make sure safety relief valves do all of the following:

((–)) (a) Discharge in the following ways:

((■)) (i) Away from the container in an upward, unobstructed manner into the atmosphere;

((■)) (ii) Not in or beneath a building.

((–)) (b) Have raincaps that allow free discharge of the vapor and prevent the entrance of water;

((–)) (c) Have a method for draining accumulated condensation;

((–)) (d) Have a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate;

((–)) (e) Are arranged to minimize the possibility of tampering;

((–)) (f) Are provided, when the pressure setting adjustment is external, with a means of sealing the adjustment;

((–)) (g) Have direct communication with the vapor space of the container.

Note: ((•)) Vent pipes from 2 or more safety relief devices located on the same unit, or similar lines from 2 or more different units, may be run into a common header if((:
–)) the cross-sectional area of the header is at least equal to the sum of the cross sectional areas of the individual vent pipes.

((~~You must:~~

~~•~~)) (4) You must protect container appurtenances against physical damage and during transit of containers intended for underground installation.

((~~•~~)) (5) You must make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

((~~Exemption:~~))
EXEMPTION:

((•)) You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:

((–)) 1. A three-way valve installed under two safety relief valves, each with:

((■)) a. The required rate of discharge; ((~~AND~~)) and

((■)) b. Installed to allow either of the safety relief valves to be closed off but not at the same time.

((–)) 2. Two separate relief valves are installed with individual shut off valves.

((■)) 3. The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.

((–)) 4. When a safety relief valve manifold that allows:

((■)) a. One valve of two or more to be closed off; ((~~AND~~)) and

((■)) b. The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

((~~You must:~~

~~•~~)) (6) You must make sure vapor and liquid connections have either of the following:

((–)) (a) An approved excess flow valve; ((~~OR~~

–)) or

(b) An approved quick-closing internal valve that remains closed except during operation.

((~~Exemption:~~))
EXEMPTION:

((•)) The following do not need to be fitted with excess flow valves:

((–)) 1. Safety relief valves.
((–)) 2. Liquid level gauging devices that require both of the following:
((■)) a. Bleeding of the product into the atmosphere;
((■)) b. Construction so that outward flow will not exceed that passed by a No. 54 drill size opening.
((–)) Those with openings from the containers or through fittings that are attached directly onto the container where pressure gauge connections are made as long as: ((■)) The openings are not larger than a No. 54 drill size.

((~~You must:~~
~~•~~)) (7) You must follow additional requirements found in Table 9, Appurtenances for Nonrefrigerated Stationary Containers.

Table 9
Appurtenances for Nonrefrigerated Stationary Containers

If you have:	Then make sure they:
((~~Columnar-type gauges~~	~~Are restricted to stationary storage installations~~
	~~Are shielded against the direct rays of the sun~~
	~~Are equipped with all of the following:~~ • ~~Shut off valves having metallic hand-wheels~~ • ~~Excess flow valves~~ • ~~Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer~~
~~Main shut off valves~~	~~Are kept closed and locked when the installation is unattended~~ ~~Exemption: Valve locks are not required if the facility is protected against tampering by fencing or other suitable means.~~
~~Filling connections~~	~~Are provided with one of the following:~~ • ~~Combination back-pressure check valve and excess flow valve~~ • ~~One double or two single back-pressure check valves~~ • ~~A positive shut off valve in conjunction with either an internal back-pressure check valve or an internal excess flow valve~~
~~Underground installations with a probability of the manhole or housing becoming flooded~~	~~Have vent lines located above the high water level~~
	~~Have manholes or housings with ventilated louvers or their equivalent with the area of their openings equal or exceeding:~~ • ~~The combined discharge areas of the safety relief valves and vent lines which discharge their content into the manhole housing~~

If you have:	Then make sure they:
~~Hydrostatic relief valves~~	~~Are installed between each pair of valves in the liquid ammonia piping or hose.~~))
Columnar-type gauges	1. Are restricted to stationary storage installations. 2. Are shielded against the direct rays of the sun. 3. Are equipped with all of the following: a. Shut off valves having metallic hand-wheels; b. Excess flow valves; c. Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer.
Main shut off valves	Are kept closed and locked when the installation is unattended. **Exemption**: Valve locks are not required if the facility is protected against tampering by fencing or other suitable means.
Filling connections	Are provided with one of the following: 1. Combination back-pressure check valve and excess flow valve. 2. One double or two single back-pressure check valves. 3. A positive shut off valve in conjunction with either an internal back-pressure check valve or an internal excess flow valve.
Underground installations with a probability of the manhole or housing becoming flooded	1. Have vent lines located above the high water level. 2. Have manholes or housings with ventilated louvers or their equivalent with the area of their openings equal or exceeding the combined discharge areas of the safety relief valves and vent lines which discharge their content into the manhole housing.
Hydrostatic relief valves	Are installed between each pair of valves in the liquid ammonia piping or hose.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-50015 Refrigerated tanks.

((~~IMPORTANT:~~)) Important:

In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

((~~You must:~~

~~•~~)) (1) You must protect container appurtenances against the following:

((–)) (a) Physical damage during transit of containers intended for underground installation;

((–)) (b) Damage from vehicles.

((~~•~~)) (2) You must make sure safety relief devices have a total relieving capacity larger than either of the following:

((–)) (a) A possible refrigeration system upset such as a cooling water failure, power failure, instrument air or instrument failure, mechanical failure of any equipment, excessive pumping rates or changing atmospheric pressure; ((~~OR~~

–)) or

(b) The amount based on using either one of the following fire exposure formulas (see note below for codes):

((■)) (i) Valve manufacturers who use weight of vapors to be relieved as the classifying basis, use this formula:

$$W = \frac{34{,}500\ F\ A\ (0.82)}{L}$$

((~~OR~~

■)) (ii) Valve manufacturers that classify valves based on air flows, use this formula:

$$Q_{(a)} = \frac{633{,}000\ F\ AO.32}{LC}$$

((~~•~~)) (3) You must make sure safety relief devices meet the following additional requirements:

((–)) (a) Are set to start-to-discharge at a pressure not in excess of the design pressure of the tank;

((–)) (b) Have a total relieving capacity sufficient to prevent a maximum pressure in a tank of more than one hundred twenty percent of the design pressure.

((~~•~~)) (4) You must provide shut off valves for all connections including plugs, safety valves, and thermometer wells((~~:~~

–)).

Locate them as close to the tank as is practical.

((~~Exemption:~~)) Shut off valves do not need to be provided on connections with a No. 54 drill size restriction.
EXEMPTION:

Note: ((~~•~~)) Install, when operating conditions make it advisable, both of the following:
((–)) 1. A check valve on the fill connection;
((–)) 2. A remotely operated shut off valve on other connections located below the maximum liquid level.

((~~You must:~~

~~•~~)) (5) You must follow requirements found in Table 10, Refrigerated Tank Appurtenances.

Table 10
Refrigerated Tank Appurtenances

If you have:	Then make sure they:
((~~Shut off valves used as a means of lock out for inspection or repair~~	~~Are of adequate flow capacity~~
	~~Are arranged to be locked or sealed open and not closed except by an authorized person who does both of the following:~~ • ~~Remains there while the valve is closed~~ • ~~Locks or seals the valve open when leaving the station.~~
~~Discharge line and header~~	~~Are designed to accommodate the maximum flow.~~
	~~Have a back pressure not greater than ten percent of the design pressure of the storage container~~ ~~Include the back pressure in the one hundred twenty percent of the maximum pressure of the design pressure.~~
	~~Do not have other containers or systems that exhaust into the discharge line or header.~~
	~~Have vent lines installed to prevent the accumulation of liquid in the lines~~ ~~**Note:** Multiple safety relief valves on the same storage unit may be run through a common discharge header.~~
~~Vacuum breakers~~	~~Are provided with atmospheric storage~~
~~Stacks~~	~~Do both of the following:~~ • ~~Prevent any obstructions by rain, snow, ice, or condensation;~~ ~~AND~~ • ~~Have an outlet size not smaller than the size of the safety relief valve outlet connection~~))
Shut off valves used as a means of lock out for inspection or repair	1. Are of adequate flow capacity. 2. Are arranged to be locked or sealed open and not closed except by an authorized person who does both of the following: a. Remains there while the valve is closed; b. Locks or seals the valve open when leaving the station.
Discharge line and header	1. Are designed to accommodate the maximum flow.

If you have:	Then make sure they:
	2. Have a back pressure not greater than 10% of the design pressure of the storage container. 3. Include the back pressure in the 120% of the maximum pressure of the design pressure. 4. Do not have other containers or systems that exhaust into the discharge line or header. 5. Have vent lines installed to prevent the accumulation of liquid in the lines. Note: Multiple safety relief valves on the same storage unit may be run through a common discharge header.
Vacuum breakers	Are provided with atmospheric storage.
Stacks	Do both of the following: 1. Prevent any obstructions by rain, snow, ice, or condensation; and 2. Have an outlet size not smaller than the size of the safety relief valve outlet connection.

((~~You must:~~

~~•~~)) (6) You must make sure appurtenances meet all of the requirements found in the following:

((~~–~~)) (a) ANSI CGA C-7 2004;

((~~–~~)) (b) ANSI CGA G2.1 1999;

((~~–~~)) (c) API Standard 620 4th Edition, 2002;

((~~–~~)) (d) ASHRAE 15 2004;

((~~–~~)) (e) ASME 2001, Section VIII, Division 1;

((~~–~~)) (f) ANSI B95.1 1977.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-50020 Systems mounted on trucks, semi-trailers and trailers.

((~~IMPORTANT:~~)) Important:

In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

((~~You must:~~

~~•~~)) (1) You must make sure each container has all of the following:

((~~–~~)) (a) Fixed maximum liquid level gauging devices;

((~~–~~)) (b) Pressure-indicator gauges with a dial graduated from zero to 400 psig;

((~~–~~)) (c) Either of the following:

((■)) (i) Equipped for spray-loading, which fills in vapor space; ((~~OR~~

■)) or

(ii) Has an approved vapor return valve of adequate capacity.

((▲)) (2) You must provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers, that do all of the following:

((–)) (a) Discharges in the following ways:

((■)) (i) Away from the container in an upward, unobstructed manner into the atmosphere;

((■)) (ii) Not in or beneath a building.

((–)) (b) Has raincaps that allow free discharge of the vapor and prevent the entrance of water;

((–)) (c) Has a method for draining accumulated condensation;

((–)) (d) Has a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate;

((–)) (e) Are arranged to minimize the possibility of tampering;

((–)) (f) Provided, when the pressure setting adjustment is external, with a means of sealing the adjustment;

((–)) (g) Has direct communication with the vapor space of the container.

((▲)) (3) You must make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

((~~Exemption:~~))
EXEMPTION:

((▲)) You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:

((–)) 1. A three-way valve installed under two safety relief valves, each with:

((■)) a. The required rate of discharge; ((~~AND~~)) and

((■)) b. Installed to allow either of the safety relief valves to be closed off but not at the same time.

((–)) 2. Two separate relief valves are installed with individual shut off valves.

((■)) 3. The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.

((–)) 4. When a safety relief valve manifold that allows:

((■)) a. One valve of two or more to be closed off ((~~AND~~)); and

((■)) b. The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

((▲)) (4) You must follow additional requirements found in Table 11, Appurtenances for Systems Mounted on Trucks, Semi-Trailers and Trailers.

Table 11
Appurtenances for Systems Mounted on Trucks, Semi-Trailers and Trailers

If you have:	Then make sure they:
((~~All container connections~~	~~Are provided with either of the following:~~ ~~Automatic excess flow valves;~~ ~~OR~~ ~~Quick-closing internal valves that remain closed except during delivery operations~~ ~~**Note:** If the control mechanism is provided with a secondary control remote from the delivery connection, then a fusible section (melting point 208°F to 220°F) is required to permit the internal valve to close automatically in case of fire.~~

If you have:	Then make sure they:
	~~**Exemption:** Filling connections, safety relief devices, and liquid level and pressure gauge connections are exempt from automatic excess flow valves and quick-closing internal valves.~~
~~Filling connections~~	~~Prevent back-flow in the event the filling connection breaks with at least one of the following:~~ • ~~Automatic back pressure check valves~~ • ~~Excess flow check valves~~ • ~~Quick closing internal valves~~ ~~**Exemption:**~~ • ~~An automatic valve is not required if:~~ – ~~The filling and discharge connect to a common opening in the container shell;~~ ~~**AND**~~ – ~~The opening is fitted with a quick-closing internal valve~~
~~Nonrecessed container fittings and appurtenances~~	~~Are protected against physical damage by one of the following methods:~~ • ~~A protected location~~ • ~~The vehicle frame or bumper~~ • ~~A protective housing that meets the following:~~ – ~~Is fabricated from material that is compatible with the containers design and construction requirements~~ – ~~Designed to withstand static loadings in any direction equal to twice the weight of the container and attachments when filled using a safety factor of not less than 4, based on the ultimate strength of the material used~~ ~~**Note:** Protect nonrecessed container fittings and appurtenances with a weather cover as needed for proper operation of valves and safety relief devices~~
~~Columnar-type gauges~~	~~Are restricted to stationary storage installations~~
	~~Are shielded against the direct rays of the sun~~

If you have:	Then make sure they:
	~~Are equipped with all of the following:~~ – ~~Shut off valves having metallic hand-wheels~~ – ~~Excess flow valves~~ – ~~Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer~~
~~Hydrostatic relief valves~~	~~Are installed between each pair of valves in the liquid ammonia piping or hose.~~))
All container connections	Are provided with either of the following: 1. Automatic excess flow valves; or 2. Quick-closing internal valves that remain closed except during delivery operations. Note: If the control mechanism is provided with a secondary control remote from the delivery connection, then a fusible section (melting point 208°F to 220°F) is required to permit the internal valve to close automatically in case of fire. **Exemption:** Filling connections, safety relief devices, and liquid level and pressure gauge connections are exempt from automatic excess flow valves and quick-closing internal valves.
Filling connections	Prevent back-flow in the event the filling connection breaks with at least one of the following: 1. Automatic back pressure check valves; 2. Excess flow check valves; 3. Quick closing internal valves. **Exemption:** An automatic valve is not required if: 1. The filling and discharge connect to a common opening in the container shell; and 2. The opening is fitted with a quick-closing internal valve.
Nonrecessed container fittings and appurtenances	Are protected against physical damage by one of the following methods: 1. A protected location;

If you have:	Then make sure they:
	2. The vehicle frame or bumper. A protective housing that meets the following: 1. Is fabricated from material that is compatible with the containers design and construction requirements; 2. Designed to withstand static loadings in any direction equal to twice the weight of the container and attachments when filled using a safety factor of not less than 4, based on the ultimate strength of the material used. Note: Protect nonrecessed container fittings and appurtenances with a weather cover as needed for proper operation of valves and safety relief devices.
Columnar-type gauges	1. Are restricted to stationary storage installations. 2. Are shielded against the direct rays of the sun. 3. Are equipped with all of the following: a. Shut off valves having metallic hand-wheels; b. Excess flow valves; c. Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer.
Hydrostatic relief valves	Are installed between each pair of valves in the liquid ammonia piping or hose.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-50025 Systems mounted on farm trucks or trailers for transportation of ammonia.

((~~IMPORTANT:~~)) Important:

((~~•~~)) This section applies to containers of three thousand gallons capacity or less and pertinent equipment mounted on farm trucks or trailers used for the transportation of ammonia.

((~~•~~)) In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

((~~**You must:**~~

~~•~~)) (1) You must make sure all containers are equipped with a fixed maximum liquid level gauge.

((•)) (2) You must make sure vapor and liquid connections have either of the following:

((–)) (a) An approved excess flow valve; ((~~OR~~

–)) or

(b) An approved quick-closing internal valve that remains closed except during operation.

((~~Exemption:~~))
EXEMPTION:

((•)) The following do not need to be fitted with excess flow valves:

((–)) 1. Safety relief valves;
((–)) 2. Those with openings from the containers or through fittings that are attached directly onto the container where pressure gauge connections are made as long as the openings are not larger than a No. 54 drill size.

((•)) (3) You must provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers, that do all of the following:

((–)) (a) Discharges ((~~in the following ways:~~

■)) away from the container in an upward, unobstructed manner into the atmosphere;

((–)) (b) Has raincaps that allow free discharge of the vapor and prevent the entrance of water;

((–)) (c) Has a method for draining accumulated condensation;

((–)) (d) Has a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate;

((–)) (e) Are arranged to minimize the possibility of tampering;

((–)) (f) Provided, when the pressure setting adjustment is external, with a means of sealing the adjustment;

((–)) (g) Has direct communication with the vapor space of the container.

((•)) (4) You must make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

((~~Exemption:~~))
EXEMPTION:

((•)) You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:
((–)) 1. A three-way valve installed under two safety relief valves, each with:
((■)) a. The required rate of discharge; ((~~AND~~)) and
((■)) b. Installed to allow either of the safety relief valves to be closed off but not at the same time.
((–)) 2. Two separate relief valves are installed with individual shut off valves.
((■)) The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.
((–)) 3. When a safety relief valve manifold that allows:
((■)) a. One valve of two or more to be closed off ((~~AND~~)); and
((■)) b. The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

((•)) (5) You must secure both ends of the hose while in transit.

((•)) (6) You must make sure all containers with a capacity exceeding two hundred fifty gallons are equipped with both of the following:

((–)) (a) A pressure gauge with a dial graduated from 0-400 psig; ((~~AND~~

–)) and

(b) A method for spray loading or with an approved vapor return valve.

((•)) (7) You must follow additional requirements found in Table 12, Appurtenances for Systems Mounted on Farm Trucks or Trailers.

Table 12
Appurtenances for Systems Mounted on Farm Trucks or Trailers

If you have:	Then make sure they:
((~~Filling connections~~	~~Are fitted with one of the following:~~

If you have:	Then make sure they:
	– ~~A combination back-pressure check valve and excess flow valve~~ – ~~One double or two single back-pressure check valves~~ – ~~A positive shut off valve used with either an:~~ ■ ~~Internal back-pressure check valve;~~ ~~OR~~ ■ ~~Internal excess flow valve~~
~~A fully enclosed guard~~	~~Have properly vented safety relief valves.~~
~~Fittings~~	~~Are protected from physical damage by a rigid guard designed:~~ – ~~To withstand static loading in any direction equal to twice the weight of the container and lading~~ – ~~With a safety factor of four based on the maximum strength of the material used~~
~~Liquid withdrawal lines installed in the bottom of the container~~	~~Have connections, including the hose, that are not lower than the lowest horizontal edge of the truck axle~~
~~Columnar-type gauges~~	~~Are shielded against the direct rays of the sun~~
	~~Are equipped with all of the following:~~
	– ~~Shut off valves having metallic hand-wheels~~ – ~~Excess flow valves~~ – ~~Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer~~
~~Hydrostatic relief valves~~	~~Are installed between each pair of valves in the liquid ammonia piping or hose.~~))
Filling connections	Are fitted with one of the following: 1. A combination back-pressure check valve and excess flow valve. 2. One double or 2 single back-pressure check valves. 3. A positive shut off valve used with either an: a. Internal back-pressure check valve; or b. Internal excess flow valve.

If you have:	Then make sure they:
A fully enclosed guard	Have properly vented safety relief valves.
Fittings	Are protected from physical damage by a rigid guard designed: 1. To withstand static loading in any direction equal to twice the weight of the container and lading. 2. With a safety factor of 4 based on the maximum strength of the material used.
Liquid withdrawal lines installed in the bottom of the container	Have connections, including the hose that are not lower than the lowest horizontal edge of the truck axle.
Columnar-type gauges	1. Are shielded against the direct rays of the sun. 2. Are equipped with all of the following: a. Shut off valves having metallic hand-wheels; b. Excess flow valves; c. Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer.
Hydrostatic relief valves	Are installed between each pair of valves in the liquid ammonia piping or hose.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-50030 Systems mounted on farm equipment for ammonia application.

((~~IMPORTANT:~~)) Important:

((~~•~~)) This section applies to systems mounted on farm equipment and used for the filed application of ammonia.

((~~•~~)) In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

((~~**You must:**~~

~~•~~)) (1) You must make sure each container has a fixed maximum liquid-level gauge.

((~~•~~)) (2) You must provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers, that do all of the following:

((–)) (a) Discharges in the following ways:

((■)) (i) Away from the container in an upward, unobstructed manner into the atmosphere.

((■)) (ii) Not in or beneath a building.

((–)) (b) Has raincaps that allow free discharge of the vapor and prevent the entrance of water;

((–)) (c) Has a method for draining accumulated condensation;

((–)) (d) Has a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate;

((–)) (e) Are arranged to minimize the possibility of tampering;

((–)) (f) Provided, when the pressure setting adjustment is external, with a means of sealing the adjustment;

((–)) (g) Has direct communication with the vapor space of the container.

((~~You must:~~

~~•~~)) (3) You must make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

((~~Exemption:~~))
EXEMPTION:

((~~•~~)) You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:

((–)) 1. A three-way valve installed under two safety relief valves, each with:

((■)) a. The required rate of discharge; ((~~AND~~)) and

((■)) b. Installed to allow either of the safety relief valves to be closed off but not at the same time.

((–)) 2. Two separate relief valves are installed with individual shut off valves.

((■)) 3. The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.

((–)) 4. When a safety relief valve manifold that allows:

((■)) a. One valve of two or more to be closed off; ((~~AND~~)) and

((■)) b. The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

((~~•~~)) (4) You must follow additional requirements found in Table 13, Appurtenances for Systems Mounted on Farm Equipment for Ammonia Application.

Table 13
Appurtenances for Systems Mounted on Farm Equipment for Ammonia Application

If you have:	Then make sure they:
((~~Filling connections~~	~~Are fitted with one of the following:~~ – ~~A combination back-pressure check valve and excess flow valve~~ – ~~One double or two single back-pressure check valves~~ – ~~A positive shut off valve used with either an:~~ ■ ~~Internal back-pressure check valve;~~ ~~OR~~ ■ ~~Internal excess flow valve~~ ~~Exemption:~~ ~~•~~ ~~An excess-flow valve is not required in either of the following:~~ – ~~Vapor connection providing you meet both of the following:~~ ■ ~~The controlling orifice is not in excess of seven-sixteenths of an inch in diameter;~~ ~~AND~~

If you have:	Then make sure they:
	■ ~~The valve is hand-operated (attached hand-wheel or equivalent) shut off valve;~~ ~~OR~~ – ~~In the liquid withdrawal line if the controlling opening between the contents of the container and the outlet of the shut off valve do not exceed 7/16 inch in diameter.~~ ~~Note: To assist in filling applicator tanks, you are allowed to bleed vapors into the open air if you meet the above requirements.~~
~~Columnar-type gauges~~	~~Are shielded against the direct rays of the sun~~ ~~Are equipped with all of the following:~~ – ~~Shut off valves having metallic hand-wheels~~ – ~~Excess flow valves~~ – ~~Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer~~
~~An applicator tank that is both of the following:~~ ~~Trailed;~~ ~~AND~~ ~~The metering device is remotely mounted (for example on a tractor tool bar)~~	~~Use an automatic break-away type, self-closing, coupling~~
~~Hydrostatic relief valves~~	~~Are installed between each pair of valves in the liquid ammonia piping or hose.~~))
Filling connections	Are fitted with one of the following: 1. A combination back-pressure check valve and excess flow valve. 2. One double or two single back-pressure check valves. 3. A positive shut off valve used with either an: a. Internal back-pressure check valve; or b. Internal excess flow valve. **Exemption:** An excess-flow valve is not required in either of the following:

If you have:	Then make sure they:
	1. Vapor connection providing you meet both of the following: a. The controlling orifice is not in excess of 7/16 of an inch in diameter; and b. The valve is hand-operated (attached hand-wheel or equivalent) shut off valve; or 2. In the liquid withdrawal line if the controlling opening between the contents of the container and the outlet of the shut off valve do not exceed 7/16 inch in diameter. Note: To assist in filling applicator tanks, you are allowed to bleed vapors into the open air if you meet the above requirements.
Columnar-type gauges	1. Are shielded against the direct rays of the sun. 2. Are equipped with all of the following: a. Shut off valves having metallic hand-wheels; b. Excess flow valves; c. Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer.
An applicator tank that is both of the following: 1. Trailed; and 2. The metering device is remotely mounted (for example on a tractor tool bar)	Use an automatic break-away type, self-closing, coupling. Note: 1. Metering devices may be connected directly to the tank withdrawal valve. 2. A union type connection is acceptable between the tank valve and metering device.
Hydrostatic relief valves	Are installed between each pair of valves in the liquid ammonia piping or hose.

((**Note:** ~~• Metering devices may be connected directly to the tank withdrawal valve.~~
~~• A union type connection is acceptable between the tank valve and metering device~~))

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-50035 Portable DOT containers.

((~~IMPORTANT:~~)) **Important:**

((~~•~~)) This section applies to systems that use cylinders, portable tanks (DOT-51), or ton containers (DOT-106A, DOT-110A).

((~~•~~)) In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

((~~You must:~~

~~•~~)) (1) You must make sure safety relief devices meet DOT specifications.

((~~•~~)) (2) You must provide the following protection:

((–)) (a) To valves and pressure regulating equipment from tampering once installed for use.

((–)) (b) To containers:

((■)) (i) From heat sources such as radiant flame and steam pipes. Do not apply heat directly to containers to raise the pressure.

((■)) (ii) From moving vehicles or external damage while being stored.

((■)) (iii) From ignitable debris and to prevent external corrosion while being stored. Storage can be indoors or outdoors.

((~~•~~)) (3) You must protect container valves while in transit, in storage, and while being moved into final use by doing either of the following:

((–)) (a) Setting them into the recess of the container; ((~~OR~~

–)) or

(b) By fastening a ventilated cap or collar to the container that can withstand a blow from any direction equivalent to a thirty-pound weight being dropped four feet.

((■)) Construction should be such that a blow will not be transmitted to the valves or other connections.

((~~•~~)) (4) You must keep outlet valves tightly closed when containers are not connected for service on all empty or loaded containers.

((–)) (5) You must secure the valve protection cap, if the container is designed for one, when the container is not in service.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-600 Operations.

Summary

Your responsibility:

To protect employees while transporting, transferring, loading and unloading anhydrous ammonia.

((~~Mounting containers on trucks, semi-trailers and trailers~~

~~WAC 296-826-60005~~

~~Mounting containers on farm trucks or trailers for transporting ammonia~~

~~WAC 296-826-60010~~

~~Tank car loading or unloading~~

~~WAC 296-826-60015~~

~~Transferring liquids~~

~~General specifications~~

~~WAC 296-826-60020~~

~~Additional requirements for systems mounted on trucks, semi-trailers, and trailers for transporting ammonia~~

~~WAC 296-826-60025~~
~~Filling densities~~
~~Nonrefrigerated containers~~
~~WAC 296-826-60030~~
~~Refrigerated tanks~~
~~WAC 296-826-60035~~
~~Welding~~
~~WAC 296-826-60040~~))

Requirements for this topic…	**begin in this section:**
Mounting and loading containers	WAC 296-826-60005
Transferring liquids	WAC 296-826-60020
Filling densities	WAC 296-826-60030

Mounting and Loading Containers

You must meet the requirements...	**in this section:**
Mounting containers on trucks, semi-trailers and trailers	WAC 296-826-60005
Mounting containers on farm trucks or trailers for transporting ammonia	WAC 296-826-60010
Tank car loading or unloading	WAC 296-826-60015

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-60005 Mounting containers on trucks, semi-trailers and trailers. ((~~**You must:**~~

~~•~~)) (1) You must make sure the method for attaching any container to the cradle, frame, or chassis of a vehicle is based on both of the following:

((–)) (a) Two "g" loading in either direction;

((–)) (b) Using a safety factor of at least four based on the maximum strength of the material used.

Note: ((•)) Two "g" is either of the following:
((–)) 1. For load support it is equivalent to three times the static weight of the supported articles.
((–)) 2. For loading and bending, acceleration, and torsion it is equivalent to twice the static weight support applied horizontally at the road surface.

((~~**You must:**~~

~~•~~)) (2) You must secure both ends of the hose during transit.

((~~•~~)) (3) You must follow the requirements in Table 14, Additional Container Mounting Requirements.

Table 14
Additional Container Mounting Requirements

If you have:	Then:
((~~"Hold-down" devices~~	~~Anchor the container to the cradle, frame, or chassis so there is no area of unnecessary stress~~
	~~Lock the container down tightly~~

If you have:	Then:
	~~Provide stops or anchors to minimize movement between the container and the framing~~ ~~Note: Movement could be the result of stopping, starting or changing direction.~~
~~Vehicles with cargo tanks designed with stress members instead of a frame~~	~~Support the tank with external cradles suspended at least one hundred twenty degrees of the shell circumference~~
	~~The design calculation needs to include all of the following stressors:~~ ~~– Beam~~ ~~– Shear~~ ~~– Torsion~~ ~~– Bending moment~~ ~~– Acceleration~~ ~~– Any other stresses covered by the code of the cargo tank design.~~
~~A liquid withdrawal line installed in the bottom of a container~~	~~Then make sure the connections to the container, including the hose, are not lower than the lowest horizontal edge of the trailer axle.~~
~~A cradle and container that are not welded together~~	~~Use suitable material between them to eliminate metal-to-metal friction.~~))
"Hold-down" devices	1. Anchor the container to the cradle, frame, or chassis so there is no area of unnecessary stress. 2. Lock the container down tightly. 3. Provide stops or anchors to minimize movement between the container and the framing. Note: Movement could be the result of stopping, starting or changing direction.
Vehicles with cargo tanks designed with stress members instead of a frame	1. Support the tank with external cradles suspended at least 120° of the shell circumference. 2. The design calculation needs to include all of the following stressors: a. Beam; b. Shear; c. Torsion; d. Bending moment; e. Acceleration; f. Any other stresses covered by the code of the cargo tank design.

If you have:	Then:
A liquid withdrawal line installed in the bottom of a container	Make sure the connections to the container, including the hose, are not lower than the lowest horizontal edge of the trailer axle.
A cradle and container that are not welded together	Use suitable material between them to eliminate metal-to-metal friction.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-60010 Mounting containers on farm trucks or trailers for transporting ammonia. ((~~You must:~~

~~•~~)) (1) You must make sure tanks mounted on farm trucks and trailers meet all of the following:

((–)) (a) Are securely attached using drawbars and safety chains;

((–)) (b) Follow behind the towing vehicle without swerving;

((–)) (c) Have at least five gallons of readily available clean water.

((~~•~~)) (2) You must do all of the following when mounting containers on farm trucks:

((–)) (a) Use suitable material between the cradle and the container to eliminate metal-to-metal friction.

((■)) This is not necessary if the cradle and container are welded together.

((–)) (b) Use stops and hold down devices to prevent displacement.

((~~•~~)) (3) You must distribute the container's weight, when mounted on four-wheel farm trucks or trailers, evenly over both axles.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-60015 Tank car loading or unloading. ((~~You must:~~

~~•~~)) (1) You must establish a location for tank car loading and unloading operations.

((~~•~~)) (2) You must assign employees and instruct them in the unloading of tank cars.

((~~•~~)) (3) You must make sure, when unloading cars, to set the brake and block the wheels.

((~~•~~)) (4) You must make sure the track of tank siding is level.

((~~•~~)) (5) You must place caution signs on the track or car to warn approaching persons of loading and unloading operations that are((~~:~~

~~–~~)) kept in place until the car is unloaded and disconnected from discharge connections.

((~~•~~)) (6) You must make sure these caution signs meet all of the following:

((–)) (a) Are made of metal or other suitable material.

((–)) (b) Are at least twelve to fifteen inches in size.

((–)) (c) Read either "STOP-Tank Car Connected" or "STOP-Men at Work" meeting the following criteria:

((■)) (i) "STOP" at least four inches high;

((■)) (ii) All other words at least two inches high;

((■)) (iii) All with white letters on a blue background.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-60020 General specifications. ((~~You must:~~ ~~•~~))

You must meet the requirements...	in this section:
General specifications	WAC 296-826-60020
Additional requirements for systems mounted on trucks, semi-trailers, and trailers for transporting ammonia	WAC 296-826-60025

(1) You must get owner authorization to use transfer containers.

((•)) (2) You must make sure transfer containers are gauged and filled in either:

((–)) (a) Open atmospheres; ((~~OR~~ –)) or

(b) Buildings approved for that purpose.

((•)) (3) You must make sure pumps used to transfer ammonia meet all of the following:

((–)) (a) Have a manufacturer's label for ammonia service.

((–)) (b) Are designed for at least 250 psig working pressure.

((–)) (c) Have a constant differential relief valve discharging into the suction port that:

((■)) (i) Is installed on positive displacement pumps; ((~~AND~~ ■)) and

(ii) Meets the pump manufacturer's recommendation for the settings and installation.

((–)) (d) Have a pressure gauge graduated zero to 400 psig installed on the discharge side before the relief valve line.

((•)) (4) You must make sure plant pipes with shut off valves are located as close as possible to the pump connections.

((•)) (5) You must make sure meters used for measuring liquid anhydrous ammonia:

((–)) (a) Are recommended and labeled for ammonia service by the manufacturer.

((–)) (b) Are designed for a minimum working pressure of 250 psig.

((–)) (c) Incorporate devices that prevent unintended measurement of vapor.

((•)) (6) You must do the following when transferring ammonia:

((–)) (a) Maintain ammonia at a temperature suitable for the receiving container.

((–)) (b) Have at least one attendant supervise the transfer from the time connections are made to when disconnection occurs.

((–)) (c) Do NOT use flammable gases or gases that will react with ammonia, such as air to unload tank cars or transport trucks.

((•)) (7) You must make sure compressors used for transferring ammonia meet all of the following:

((–)) (a) Have a working pressure of at least 250 psig when transferring ammonia.

((■)) If crank cases of compressors are not designed to withstand system pressure, then provide protection with a suitable safety relief valve.

((–)) (b) Are connected to plant piping with shut off valves located as close as practical to compressor connections.

((–)) (c) Have a safety relief valve that is both:

((■)) (i) Large enough to discharge the full capacity of the compressor; ((~~AND~~

■)) and

(ii) Connected to the discharge before any shut off valve.

((–)) (d) Have an oil separator on the discharge side, where necessary to prevent contamination.

((–)) (e) Have a drainable liquid trap or other adequate method on the compressor suction to minimize the entry of liquids into the compressor.

((–)) (f) Pressure gauges on the suction and discharge ends graduated to at least one and one-half times the maximum pressure that can develop.

((•)) (8) You must protect loading and unloading systems in the event of hose severance by suitable devices where necessary, such as:

((–)) (a) Backflow check valves; ((~~OR~~

–)) or

(b) Properly sized excess flow valves.

Note: If such valves are not practical, remotely operated shut off valves may be installed.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-60025 Additional requirements for systems mounted on trucks, semi-trailers, and trailers for transporting ammonia. ((~~**You must:**~~

•)) (1) You must make sure the content of vehicle containers is determined by one of the following:

((–)) (a) Weight;

((–)) (b) Liquid-level gauging devices;

((–)) (c) Meters ((~~**OR**~~

–)); or

(d) Other approved methods.

((•)) (2) You must use a thermometer well when the content of a container is determined by liquid-level measurement. ((~~Make sure of the following:~~

–)) (3) You must make sure the volume, when converted to weight, does not exceed the DOT filling density requirement.

((•)) (4) You must protect pumps and compressors against physical damage when mounted on trucks or trailers.

((•)) (5) You must unload tank motor vehicles with a water capacity greater than 3500 gallons at approved locations.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-60030 Nonrefrigerated containers. ((~~You must:~~ ~~•~~))

You must meet the requirements…	in this section:
Nonrefrigerated containers	WAC 296-826-60030
Refrigerated tanks	WAC 296-826-60035
Welding	WAC 296-826-60040

You must make sure filling densities for nonrefrigerated containers are below or equal to the requirements in Table 15, Filling Densities.

Table 15
Filling Densities

Containers	Aboveground Containers	Underground Containers
Uninsulated	56%	58%
Insulated	57%	——

Note: ((•)) For uninsulated, aboveground containers, the 56% corresponds to:
((–)) 1. 82% by volume at -28°F.
((–)) 2. 85% by volume at 5°F.
((–)) 3. 87.5% by volume at 30°F.
((–)) 4. 90.6% by volume at 60°F.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-60035 Refrigerated tanks. ((~~You must:~~)) You must make sure refrigerated tanks are not liquid full at a liquid temperature so that the vapor pressure is below the "start-to-discharge" pressure setting of the safety relief valve.

AMENDATORY SECTION (Amending WSR 06-10-067, filed 5/2/06, effective 9/1/06)

WAC 296-826-60040 Welding. ((~~You must:~~)) You must permit welding only on the saddle plates, lugs, or brackets attached to the container by the manufacturer.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 296-826-900 Definitions.

NEW SECTION

WAC 296-865-099 Definitions.

Motor vehicle. Any vehicle, machine, tractor, trailer, or any combination of these that is driven by mechanical power and used on the roadways in the transportation of people and materials.

Semitruck. A truck and trailer combination designed and used primarily for carrying material and property.

Trailer. A nonmotorized vehicle designed to be towed by a motor vehicle.

Truck. Any motor vehicle designed, used, or maintained primarily for the transportation of property.

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-100 Scope. This chapter applies to all motor vehicles and semitrucks used on public or private roadways.

((~~**Definition:**~~

~~**Motor vehicle** means any vehicle, machine, tractor, trailer, or any combination of these that is driven by mechanical power and used on the roadways in the transportation of people or materials.~~))

EXEMPTION:

This section does not apply to:

((~~•~~)) 1. Powered industrial trucks (forklifts) covered by another chapter, Powered industrial trucks, chapter 296-863 WAC;

((~~•~~)) 2. Construction equipment covered by another chapter, Safety standards for construction work, chapter 296-155 WAC;

((~~•~~)) 3. Logging trucks covered by another chapter, Logging operations, chapter 296-54 WAC; ((~~AND~~

~~•~~)) and

4. Agricultural equipment covered by another chapter, Safety standards for agriculture, chapter 296-307 WAC.

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-200 All motor vehicles.

Your responsibility:

To make sure all motor vehicle occupants are safe and equipment is safe to use.

((~~Motor vehicle operation~~

~~WAC 296-865-20005.~~

~~Transportation of passengers~~

~~WAC 296-865-20010.~~

~~Motor vehicle equipment~~

~~WAC 296-865-20015.~~))

You must meet the requirements…	in this section:
Motor vehicle operation	WAC 296-865-20005
Transportation of passengers	WAC 296-865-20010
Motor vehicle equipment	WAC 296-865-20015

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-20005 Motor vehicle operation. ((~~You must:~~

~~•~~)) (1) You must allow only drivers who are qualified to operate a motor vehicle.

((~~•~~)) (2) You must allow only drivers who have a current motor vehicle operator's license to operate motor vehicles on public roadways.

((~~•~~)) (3) You must make sure employees follow any site-specific rules and posted speed limits when operating motor vehicles on roadways privately owned and maintained.

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-20010 Transportation of passengers. ((~~You must:~~

~~•~~)) (1) You must transport all passengers safely.

((~~•~~)) (2) You must make sure all employees use seat belts, if the vehicle is equipped with seat belts.

((~~Exemption:~~)) **EXEMPTION:** This does not apply to emergency medical workers during the treatment of a patient in an ambulance.

((~~You must:~~

~~•~~)) (3) You must make sure vehicles used to transport employees are, at all times:

((~~–~~)) (a) Well equipped;

((~~–~~)) (b) Covered against the weather; ((~~AND~~

~~–~~)) and

(c) Maintained in good mechanical condition.

((~~•~~)) (4) You must make sure when transporting sharp tools that could present a hazard to employees in the vehicle that you provide compartments or (cargo) screens strong enough to retain the tools.

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-20015 Motor vehicle equipment. ((~~You must:~~

~~•~~)) (1) You must make sure all equipment operated on public roadways meets all of the state of Washington motor vehicle laws.

((•)) (2) You must make sure all parts and accessories are safe to use.

((•)) (3) You must make sure all motor vehicle equipment meets the specification or requirements in Table 1.

Table 1
Motor Vehicle Equipment

If you have this type of equipment:	Then make sure the equipment is:
Seats	1. Properly secured; ((~~AND~~)) and 2. Available for every employee in the vehicle.
Tires	Safe to use.
Exhaust systems	1. Designed to eliminate the exposure of exhaust gases and fumes; ((~~AND~~)) and 2. Installed and maintained in proper condition.
Fire extinguishers	Provided when the vehicle is: ((–)) 1. At least 26,000 pounds (manufacturer's gross weight); ((~~AND~~)) and ((–)) 2. Only used in the state of Washington.

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-300 Trucks and trailers.

Your responsibility:

To make sure all trucks and trailers are operated and maintained safely.

((~~Truck operation~~
~~WAC 296-865-30005.~~
~~Dump trucks~~
~~WAC 296-865-30010.~~
~~Semitruck brakes~~
~~WAC 296-865-30015.~~
~~Truck and trailer loads~~
~~WAC 296-865-30020.~~))

You must meet the requirements…	in this section:
Truck operation	WAC 296-865-30005
Dump trucks	WAC 296-865-30010
Semitruck brakes	WAC 296-865-30015
Truck and trailer loads	WAC 296-865-30020

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-30005 Truck operation. ((~~You must:~~

~~•~~)) (1) You must make sure truck drivers operate equipment at a safe speed at all times for roadway conditions.

((~~•~~)) (2) You must make sure truck drivers either:

((~~–~~)) (a) Sound their horn before starting to back and intermittently during the entire backing operation; ((~~OR~~

~~–~~)) or

(b) Have a working automatic reverse signal alarm that is audible:

((~~■~~)) (i) Above the surrounding noise level; ((~~AND~~

~~■~~)) and

(ii) No less than fifteen feet from the rear of the vehicle.

((~~•~~)) (3) You must make sure, during the backing of trucks where vision is obstructed, a signal person is stationed at a point giving a clear view of the rear of the truck and the operator of the truck at all times.

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-30010 Dump trucks. ((~~You must:~~

~~•~~)) You must make sure dump trucks have a device installed on the frame that will hold the bed in the raised position when employees are working underneath.

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-30015 Semitruck brakes. ((~~You must:~~

~~•~~)) (1) You must make sure semitrucks are equipped with brakes that will safely hold the maximum load on maximum grades.

Note: Trailers may use air brakes or other types of brake equipment approved by the Washington state patrol.

((~~You must:~~

~~•~~)) (2) You must test brakes before descending a steep grade.

((~~•~~)) (3) You must follow the requirements in Table 2, ((~~Truck~~)) Semitruck Braking Requirements.

Table 2
Semitruck Braking Requirements

When:	You must:
You park a truck on an incline	((–)) 1. Turn the wheels into the curb; ((~~AND~~)) and ((–)) 2. Have at least one "driver" wheel chocked on each side, independent of the braking system.

When:	You must:
Using air brakes	Cut air into the trailer brake system at the time the trailer is attached to the truck.

AMENDATORY SECTION (Amending WSR 05-17-059, filed 8/10/05, effective 10/1/05)

WAC 296-865-30020 Truck and trailer loads. ((~~You must:~~ ~~•~~)) You must make sure all loads transported on trucks or trailers are:

((–)) (1) Properly secured and distributed; ((~~AND~~ –)) and

(2) Limited to a safe operating load for the:

((■)) (a) Condition of the roadway; ((~~AND~~ ■)) and

(b) Capacity of the bridges, trestles, and other structures.

Note: The commercial motor vehicles unit of the Washington state patrol determines how much weight can be carried on a vehicle by factoring manufacture limitations, number of axles, and other variables. For more information:
((•)) 1. See RCW 46.44.041, Maximum gross weights—Wheelbase and axle factors; or
((•)) 2. Contact the commercial motor vehicles unit of the Washington state patrol at Trucks@wsp.wa.gov.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 296-865-400 Definitions.

NEW SECTION

WAC 296-869-099 Definitions. Aerial device. A vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.

Aerial ladder. A vehicle-mounted elevating work platform consisting of a single or multiple-section extensible ladder. It may or may not have a platform at the top.

Aerial lift. An aerial device mounted on a vehicle such as a truck, trailer, or all-terrain vehicle.

Approved. Listed or approved by a nationally recognized testing laboratory or a federal agency that issues approvals for equipment such as the Mine Safety and Health Administration (MSHA); the National Institute for Occupational Safety and Health (NIOSH); Department of Transportation; or U.S. Coast Guard, which issue approvals for such equipment.

Articulating-boom work platform. A vehicle-mounted elevated work platform with two or more hinged boom sections.

Boom-supported elevating work platform. A self-propelled, integral chassis, elevating work platform with a boom-supported platform that can be positioned completely beyond the base.

Chassis. The part of a nonvehicle-mounted elevating work platform that provides mobility and support for the elevating assembly and platform.

Elevating work platform. A device used to position personnel, along with their necessary tools and materials, at work locations. It includes a platform and an elevating assembly. It may be vehicle mounted or have an integral chassis for mobility and as a means of support.

Extensible-boom work platform. A vehicle-mounted elevating work platform with a telescopic or extensible boom.

Manually propelled elevating work platform. A manually propelled, integral chassis, elevating work platform with a platform that cannot be positioned completely beyond the base.

Platform. The portion of an elevating work platform intended to be occupied by personnel. It may also be called a basket, bucket, stand, or similar term.

Rated capacity. The designed carrying capacity of the elevating work platform as specified by the manufacturer.

Self-propelled elevating work platform. A self-propelled, integral chassis, elevating work platform with a platform that cannot be positioned completely beyond the base.

Type designation. A code to identify types of elevating work platforms. It is used to determine if an elevating work platform can be used in a specific classified or unclassified location.

(a) **D** refers to elevating work platforms that are diesel engine powered that have minimum safeguards against inherent fire hazards.

(b) **DS** refers to diesel powered elevating work platforms that, in addition to meeting all the requirements for type D elevating work platforms, are provided with additional safeguards to the exhaust, fuel, and electrical systems.

(c) **DY** refers to diesel powered elevating work platforms that have all the safeguards of the DS elevating work platforms and, in addition, any electrical equipment is completely enclosed. They are equipped with temperature limitation features.

(d) **E** refers to electrically powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.

(e) **ES** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E elevating work platforms, have additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.

(f) **EE** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E and ES type elevating work platforms, have their electric motors and all other electrical equipment completely enclosed.

(g) **EX** refers to electrically powered elevating work platforms that differ from E, ES, or EE type elevating work platforms in that the electrical fittings and equipment are designed, constructed and assembled to be used in atmospheres containing flammable vapors or dusts.

(h) **G** refers to gasoline powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.

(i) **GS** refers to gasoline powered elevating work platforms that are provided with additional exhaust, fuel, and electrical systems safeguards.

(j) **LP** refers to liquefied petroleum gas-powered elevating work platforms that, in addition to meeting all the requirements for type G elevating work platforms, have minimum acceptable safeguards against inherent fire hazards.

(k) **LPS** refers to liquefied petroleum gas-powered elevating work platforms that, in addition to meeting the requirements for LP type elevating work platforms, have additional exhaust, fuel, and electrical systems safeguards.

Vertical tower. A vehicle-mounted elevating work platform having a platform that can be raised along a vertical axis.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-100 Scope. This chapter applies to the following types of elevating work platforms:

((•)) (1) Aerial lifts;

((•)) (2) Manually propelled elevating work platforms that have a platform that cannot be positioned completely beyond the base;

((•)) (3) Self-propelled elevating work platforms that have a platform that cannot be positioned completely beyond the base;

((•)) (4) Boom-supported elevating work platforms that have a boom-supported platform that can be positioned completely beyond the base.

((~~Exemption:~~)) EXEMPTION: This chapter does not apply to elevating work platforms used:

((•)) 1. By the fire services for fire combat that are covered by Safety standards for firefighters, chapter 296-305 WAC; ((~~OR~~)) or

((•)) 2. For agriculture activities covered by Safety standards for agriculture, chapter 296-307 WAC.

((~~**Definitions:**~~

~~• Aerial lift:~~

~~– An aerial device mounted on a vehicle such as a truck, trailer, or all-terrain vehicle.~~

~~• Aerial device:~~

~~– A vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.~~

~~• Elevating work platform:~~

~~– A device used to position personnel, along with their necessary tools and materials, at work locations. It includes a platform and an elevating assembly and may be either:~~

~~■ Vehicle mounted;~~

~~OR~~

~~■ Have an integral chassis providing mobility and a means of support~~

~~• Platform:~~

~~– The portion of an elevating work platform intended to be occupied by personnel. It may also be called a basket, bucket, stand, or similar term.~~))

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-200 Section contents.

Summary

((~~IMPORTANT:~~)) Important:

This section applies to the following types of vehicle-mounted aerial devices:

((•)) (1) Extensible-boom work platforms;

((•)) (2) Articulating-boom work platforms;

((•)) (3) Vertical towers;

((•)) (4) Aerial ladders;

((•)) (5) A combination of any of the above types of elevating work platforms.

Your responsibility:

To meet these requirements when using aerial lifts.

((~~WAC 296-869-20005~~
~~Design and construction~~
~~WAC 296-869-20010~~
~~Modifications~~
~~WAC 296-869-20015~~
~~Owned, rented, or leased aerial lifts~~
~~WAC 296-869-20020~~
~~Operator requirements~~
~~WAC 296-869-20025~~
~~Operator training~~
~~WAC 296-869-20030~~
~~Operator prestart inspection~~
~~WAC 296-869-20035~~
~~Workplace survey~~
~~WAC 296-869-20040~~
~~Before and during use~~
~~WAC 296-869-20045~~
~~Working from the platform~~
~~WAC 296-869-20050~~
~~Moving the aerial lift~~
~~WAC 296-869-20055~~
~~Aerial ladders~~))

You must meet the requirements...	in this section:
Design and construction	WAC 296-869-20005
Modifications	WAC 296-869-20010
Owned, rented, or leased aerial lifts	WAC 296-869-20015
Operator requirements	WAC 296-869-20020
Operator training	WAC 296-869-20025
Operator prestart inspection	WAC 296-869-20030
Workplace survey	WAC 296-869-20035
Before and during use	WAC 296-869-20040
Working from the platform	WAC 296-869-20045
Moving the aerial lift	WAC 296-869-20050
Aerial ladders	WAC 296-869-20055

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20005 Design and construction. ((~~You must:~~

~~•~~)) (1) You must make sure aerial lifts manufactured on or after July 1, 2006, meet the design and construction requirements of ANSI A92.2-2001, American National Standard for Vehicle-Mounted Elevating and Rotating Aerial Devices.

((~~•~~)) (2) You must make sure aerial lifts manufactured before July 1, 2006, meet the design and construction requirements of ANSI A92.2-1969, American National Standard for Vehicle-Mounted Elevating and Rotating Work Platforms.

((~~**Definition:**~~

~~• Aerial lift:~~

~~– An aerial device mounted on a vehicle such as a truck, trailer, or all-terrain vehicle.~~

~~• Aerial device:~~

~~– A vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.~~))

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20010 Modifications. ((~~You must:~~

~~•~~)) You must have written approval from the manufacturer before making any modification or addition that affects the safe operation, stability, intended use, or the mechanical, hydraulic, or electrical integrity of the aerial lift. Make sure the modified aerial lift is:

((–)) (1) At least as safe as it was before being modified; ((~~AND~~

–)) and

(2) Any change to the insulated portion of the aerial lift does not reduce the insulating value.

Note: If the original manufacturer is no longer in business, an equivalent entity such as a nationally recognized testing laboratory may approve modification.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20015 Owned, rented, or leased aerial lifts.

((~~IMPORTANT:~~)) Important:

This section applies if you own, rent, or lease an aerial lift.

((~~You must:~~

~~•~~)) (1) You must meet the requirements of the Responsibilities of Owners, section 8, of ANSI A92.2-2001, American National Standard for Vehicle-Mounted Elevating and Rotating Aerial Devices, if you own an aerial lift.

((~~•~~)) (2) You must meet the requirements of the Responsibilities of Renters, Lessors or Lessees, section 11, of ANSI A92.2-2001, American National Standard for Vehicle-Mounted Elevating and Rotating Aerial Devices, if you rent or lease an aerial lift.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20020 Operator requirements. ((~~You must:~~

~~•~~)) You must permit only trained and authorized personnel to operate aerial lifts.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20025 Operator training. ((~~You must:~~

~~•~~)) (1) You must make sure personnel are trained before they are permitted to operate an aerial lift.

(2) You must cover at least the following items:

((–)) (a) General instruction on the inspection, application, and operation of aerial lifts.

((■)) Include recognizing and avoiding hazards associated with their operation.

((–)) (b) Purpose and use of manuals.

((■)) Include proper storage of the manuals on the vehicle when not in use.

((–)) (c) Prestart inspection.

((–)) (d) Responsibilities associated with problems or malfunctions affecting the operation of the aerial lift.

((–)) (e) Factors affecting stability.

((–)) (f) Purpose of placards and decals.

((–)) (g) Workplace survey.

((–)) (h) Safety rules and regulations pertinent to the industry.

((–)) (i) Authorization to operate an aerial lift.

((–)) (j) Operator warnings and instructions.

((–)) (k) Proper use of personal fall protection equipment.

((•)) (3) You must have operator trainees actually operate the aerial lift, under the direction of a qualified person, for enough time to demonstrate proficiency.

((•)) (4) You must retrain an operator if evaluation and observation of the operator indicates retraining is necessary.

((•)) (5) You must instruct operators in all of the following before they are directed to operate an aerial lift with which they are not familiar:

((–)) (a) Location of the manuals((.));

((–)) (b) Purpose and function of all controls((.));

((–)) (c) Safety devices and operating characteristics specific to the aerial lift.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20030 Operator prestart inspection. ((~~You must:~~

~~•~~)) (1) You must make sure the operator does a prestart inspection of the aerial device as shown in Table 1, Operator Prestart Inspection.

((•)) (2) You must have a qualified person examine or test any items found during the inspection that are thought to be unsafe to determine if they constitute a safety hazard.

((•)) (3) You must replace or repair all unsafe items before use.

Table 1
Operator Prestart Inspection

Component or system:	Test or inspect for the following:
Operating controls and associated mechanisms	Conditions interfering with proper operation
Visual and audible safety devices	Malfunctions
Hydraulic or pneumatic systems	Visible deterioration or excessive leaks
Fiberglass and other insulating components	Visible damage or contamination
Operational and instructional markings	That they are present and legible
Electrical systems of or related to the aerial device	Malfunction and for signs of excessive deterioration, dirt, and moisture accumulation
Locking devices, bolts, pins, and other fasteners	That they are in-place and not loose or deformed

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20035 Workplace survey. ((~~You must:~~

~~•~~)) You must have the operator survey the area, before using an aerial lift, for hazards such as:

((–)) (1) Untamped earth fills;

((–)) (2) Ditches;

((–)) (3) Drop-offs and floor obstructions;

((–)) (4) Debris;

((–)) (5) Overhead obstructions and electrical conductors;

((–)) (6) Weather conditions;

((–)) (7) Unauthorized persons in the area.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20040 Before and during use. ((~~You must:~~

~~•~~)) (1) You must set the brakes and make sure outriggers, when used, are positioned on pads or a solid surface.

((~~•~~)) (2) You must install wheel chocks when using the aerial lift on an incline if they can be installed safely.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20045 Working from the platform. ((~~You must:~~

~~•~~)) (1) You must make sure boom and platform load limits specified by the manufacturer are not exceeded.

((~~•~~)) (2) You must make sure persons stand firmly on the floor of the platform and do not:

((–)) (a) Sit or climb on the edge of the platform; ((~~OR~~

–)) or

(b) Use guardrails, planks, ladders, or any other device to gain additional height or reach.

((~~•~~)) (3) You must prohibit wearing climbers when working from the platform.

((~~•~~)) (4) You must make sure all persons on the platform wear a full body harness with a lanyard attached to either:

((–)) (a) The manufacturer's recommended attachment point; ((~~OR~~

–)) or

(b) The boom or platform if the manufacturer does not specify an attachment point.

((~~•~~)) (5) You must never attach a lanyard to an adjacent pole, structure, or equipment.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20050 Moving the aerial lift. ((~~You must:~~

~~•~~)) You must make sure the boom is properly cradled and the outriggers are in the stowed position before moving the aerial lift.

((~~Exemption:~~))
EXEMPTION: The aerial lift may be moved with the boom elevated and personnel on the platform only if the equipment was specifically designed for this type of operation.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-20055 Aerial ladders. ((~~You must:~~

~~•~~)) (1) You must secure aerial ladders in the lower traveling position, using the locking device or other means provided by the manufacturer, before moving it for highway travel.

((~~•~~)) (2) You must make sure all persons working from an aerial ladder wear a full body harness and lanyard attached to either:

((–)) (a) The manufacturer's recommended attachment point; ((~~OR~~

–)) or

(b) The ladder rail if the manufacturer does not specify an attachment point.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-300 Section contents.

Summary

((~~IMPORTANT:~~)) Important:

This section applies to manually propelled, self-propelled, and boom-supported elevating work platforms.

Your responsibility:

To make sure elevating work platforms meet these design, construction, and equipment requirements.

((~~WAC 296-869-30005~~
~~Manually propelled elevating work platforms~~
~~WAC 296-869-30010~~
~~Self-propelled elevating work platforms~~
~~WAC 296-869-30015~~
~~Boom-supported elevating work platforms~~
~~WAC 296-869-30020~~
~~Modifications~~))

You must meet the requirements...	**in this section:**
Manually propelled elevating work platforms	WAC 296-869-30005
Self-propelled elevating work platforms	WAC 296-869-30010

You must meet the requirements...	in this section:
Boom-supported elevating work platforms	WAC 296-869-30015
Modifications	WAC 296-869-30020

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-30005 Manually propelled elevating work platforms.

((~~IMPORTANT:~~)) Important:

This section applies to manually propelled, integral chassis, elevating work platforms with a platform that cannot be positioned completely beyond the base.

((~~**You must:**~~

~~•~~)) (1) You must make sure manually propelled elevating work platforms meet the design and construction requirements of American National Standards Institute (ANSI) A92.3-1990, American National Standard for Manually Propelled Elevating Aerial Platforms.

((~~•~~)) (2) You must make sure the manufacturer provides instructions and markings that meet the requirements of ANSI A92.3-1990, American National Standard for Manually Propelled Elevating Aerial Platforms, on each elevating work platform.

((~~•~~)) (3) You must make sure manuals that meet the requirements of ANSI A92.3-1990, American National Standard for Manually Propelled Elevating Aerial Platforms, are:

((~~–~~)) (a) Provided for each elevating work platform; ((~~AND~~

~~–~~)) and

(b) Kept in the weather-resistant storage compartment provided by the manufacturer.

Note: Required manuals include the manufacturer's operating and maintenance manuals and a manual that defines the responsibilities of dealers, owners, lessors, lessees, users, and operators.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-30010 Self-propelled elevating work platforms.

((~~IMPORTANT:~~)) Important:

This section applies to self-propelled, integral chassis, elevating work platforms with a platform that cannot be positioned completely beyond the base.

((~~**You must:**~~

~~•~~)) (1) You must make sure self-propelled elevating work platforms manufactured on or after July 1, 2006, meet the design and construction requirements of ANSI A92.6-1999, American National Standard for Self-Propelled Elevating Work Platforms.

((~~•~~)) (2) You must make sure self-propelled elevating work platforms manufactured before July 1, 2006 meet the design and construction requirements of ANSI A92.6-1990, American National Standard for Self-Propelled Elevating Work Platforms.

((•)) (3) You must make sure the manufacturer provides instructions and markings that meet the requirements of ANSI A92.6-1990 or A92.6-1999, American National Standard for Self-Propelled Elevating Work Platforms, as appropriate, on each elevating work platform.

((•)) (4) You must make sure manuals that meet the requirements of ANSI A92.6-1990 or A92.6-1999, American National Standard for Self-Propelled Elevating Work Platforms, as appropriate, are:

((–)) (a) Provided for each elevating work platform; ((~~AND~~ –)) and

(b) Kept in the weather-resistant storage compartment provided by the manufacturer.

Note: Required manuals include the manufacturer's operating and maintenance manuals and a manual that defines the responsibilities of dealers, owners, lessors, lessees, users, and operators.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-30015 Boom-supported elevating work platforms.

((~~IMPORTANT:~~)) Important:

This section applies to self-propelled, integral chassis, elevating work platforms with a boom-supported platform that can be positioned completely beyond the base.

((~~**You must:**~~ •)) (1) You must make sure boom-supported elevating work platforms meet the design and construction requirements of American National Standards Institute (ANSI) A92.5-1992, American National Standard for Boom-Supported Elevating Work Platforms.

((•)) (2) You must make sure the manufacturer provides instructions and markings that meet the requirements of ANSI A92.5-1992, American National Standard for Boom-Supported Elevating Work Platforms, on each elevating work platform.

((•)) (3) You must make sure manuals that meet the requirements of ANSI A92.5-1992, American National Standard for Boom-Supported Elevating Work Platforms, are:

((–)) (a) Provided for each elevating work platform; ((~~AND~~ –)) and

(b) Kept in the weather-resistant storage location provided by the manufacturer.

Note: Required manuals include the manufacturer's operating and maintenance manuals and a manual that defines the responsibilities of dealers, owners, lessors, lessees, users, and operators.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-30020 Modifications. ((~~**You must:**~~ •)) (1) You must prohibit altering or disabling interlocks or other safety devices.

((•)) (2) You must have written permission from the manufacturer before making any modification to an elevating work platform.

Note: If the original manufacturer is no longer in business, an equivalent entity such as a nationally recognized testing laboratory may approve modification.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-400 Section contents.

Summary

((~~IMPORTANT:~~)) Important:

This section applies to manually propelled, self-propelled, and boom-supported elevating work platforms.

Your responsibility:

To inspect, repair, maintain, and service elevating work platforms to keep them in safe operating condition.

((~~WAC 296-869-40005~~
~~Condition~~
~~WAC 296-869-40010~~
~~Inspections~~
~~WAC 296-869-40015~~
~~Repairs and adjustments~~
~~WAC 296-869-40020~~
~~Manufacturer's safety bulletins~~
~~WAC 296-869-40025~~
~~Inspection and repair records~~
~~WAC 296-869-40030~~
~~Fueling and battery charging~~))

You must meet the requirements…	in this section:
Condition	WAC 296-869-40005
Inspections	WAC 296-869-40010
Repairs and adjustments	WAC 296-869-40015
Manufacturer's safety bulletins	WAC 296-869-40020
Inspection and repair records	WAC 296-869-40025
Fueling and battery charging	WAC 296-869-40030

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-40005 Condition. ((~~**You must:**~~
~~•~~)) (1) You must inspect and maintain elevating work platforms to keep them in proper operating condition.

((~~•~~)) (2) You must immediately remove from service any elevating work platform that is not in proper operating condition.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-40010 Inspections. ((~~**You must:**~~

~~•~~)) (1) You must do a prestart inspection of the elevating work platform according to Table 2, Elevating Work Platform Inspections.

((~~•~~)) (2) You must make sure frequent and annual inspections are done:

((–)) (a) By a person qualified as a mechanic on the specific make and model of elevating work platform; ((~~AND~~

–)) and

(b) According to Table 2, Elevating Work Platform Inspections.

Table 2
Elevating Work Platform Inspections

Type of inspection:	When required:	Items to inspect:
((~~Prestart~~	• ~~At the beginning of each shift.~~	• ~~Do a visual inspection and functional test including at least the following:~~ – ~~Operating and emergency controls~~ – ~~Safety devices~~ – ~~Personal protective devices, including fall protection~~ – ~~Air, hydraulic and fuel system leaks~~ – ~~Cables and wiring harness~~ – ~~Loose or missing parts~~ – ~~Tires and wheels~~ – ~~Placards, warnings, control markings, and required manuals~~ – ~~Outriggers, stabilizers, and other structures~~ – ~~Guardrail system~~ – ~~Items specified by the manufacturer~~
~~Frequent~~	• ~~Elevating work platforms that have been in service three months or one hundred fifty hours, whichever comes first;~~ ~~AND~~ • ~~Before putting elevating work platforms back in service that have been out of service for more than three months~~ ~~**Note:**~~ ~~Newly purchased used equipment should be given the equivalent of a frequent inspection before being put into service.~~	• ~~All functions and their controls for speeds, smoothness, and limits of motion~~ • ~~Emergency lowering means (manually propelled only)~~ • ~~Lower controls including the provisions for overriding of upper controls (self-propelled and boom-supported)~~ • ~~All chain and cable mechanisms for adjustment and worn or damaged parts~~ • ~~All emergency and safety devices~~ • ~~Lubrication of all moving parts, inspection of filter element(s), hydraulic oil, engine oil, and coolant as specified by the manufacturer~~ • ~~Visual inspection of structural components and other critical components such as fasteners, pins, shafts, turntable attachment bolts (boom-supported only), and locking devices~~ • ~~Placards, warnings, and control markings~~ • ~~Additional items specified by the manufacturer~~
~~Annual~~	• ~~Not later than thirteen months from the date of the last annual inspection~~	• ~~All items specified by the manufacturer for an annual inspection~~))
Prestart	At the beginning of each shift.	Do a visual inspection and functional test including at least the following: 1. Operating and emergency controls; 2. Safety devices; 3. Personal protective devices, including fall protection; 4. Air, hydraulic and fuel system leaks;

Type of inspection:	When required:	Items to inspect:
		5. Cables and wiring harness; 6. Loose or missing parts; 7. Tires and wheels; 8. Placards, warnings, control markings, and required manuals; 9. Outriggers, stabilizers, and other structures; 10. Guardrail system; 11. Items specified by the manufacturer.
Frequent	1. Elevating work platforms that have been in service 3 months or 150 hours, whichever comes first; and 2. Before putting elevating work platforms back in service that have been out-of-service for more than 3 months. Note: Newly purchased used equipment should be given the equivalent of a frequent inspection before being put into service.	1. All functions and their controls for speeds, smoothness, and limits of motion; 2. Emergency lowering means (manually propelled only); 3. Lower controls including the provisions for overriding of upper controls (self-propelled and boom-supported); 4. All chain and cable mechanisms for adjustment and worn or damaged parts; 5. All emergency and safety devices; 6. Lubrication of all moving parts, inspection of filter element(s), hydraulic oil, engine oil, and coolant as specified by the manufacturer; 7. Visual inspection of structural components and other critical components such as fasteners, pins, shafts, turn-table attachment bolts (boom-supported only), and locking devices; 8. Placards, warnings, and control markings; 9. Additional items specified by the manufacturer.
Annual	No later than 13 months from the date of the last annual inspection.	All items specified by the manufacturer for an annual inspection.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-40015 Repairs and adjustments. ((~~You must:~~ ~~•~~)) (1) You must make sure repairs to elevating work platforms are:

((~~–~~)) (a) Made by a qualified person; ((~~AND~~ ~~–~~)) and

(b) Done according to the manufacturer's recommendations.

((~~•~~)) (2) You must make sure the elevating work platform, before beginning adjustments or repairs, meets all of the following requirements that apply:

((~~–~~)) (a) All controls in the "off" position;

((~~–~~)) (b) All operating features secured from inadvertent motion by brakes, blocks, or other means;

((~~–~~)) (c) Powerplant stopped;

((~~–~~)) (d) Means of starting is rendered inoperative;

((–)) (e) Platform either:
((■)) (i) Lowered to the full down position, if possible; ((~~OR~~ ■)) or
(ii) Blocked or cribbed to prevent dropping.
((–)) (f) Hydraulic pressure relieved from all hydraulic circuits before loosening or removing hydraulic components;
((–)) (g) Safety props or latches installed, where applicable;
((–)) (h) Other precautions as specified by the manufacturer; and
((~~•~~)) (i) Make sure replacement parts or components are identical or equivalent to the original parts or components.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-40020 Manufacturer's safety bulletins. ((~~You must:~~ ~~•~~)) You must meet the requirements of safety-related bulletins as received from the manufacturer, dealer, or owner.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-40025 Inspection and repair records. ((~~You must:~~ ~~•~~)) (1) You must keep written records documenting:
((–)) (a) Frequent and annual inspections you have done including:
((■)) (i) Date of inspection;
((■)) (ii) Deficiencies found;
((■)) (iii) Corrective action recommended.
((■)) (b) Names of the people who did the inspection; ((~~AND~~ –)) and
(c) All repairs done on the elevating work platform, including:
((■)) (i) Date of repair;
((■)) (ii) Description of the work done;
((■)) (iii) Names of the people who did the repair.
((~~•~~)) (2) You must retain the records of inspections and repairs for at least:
((–)) (a) Three years for manually propelled and boom-supported elevating work platforms; ((~~AND~~ –)) and
(b) Four years for self-propelled elevating work platforms.

Note: 1. It is the responsibility of the owner of the elevating work platform to make sure frequent and annual inspections are done and documented.
2. If you perform either type of inspection, or make repairs to the elevating work platform, send the appropriate records to the owner of the elevating work platform.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-40030 Fueling and battery charging. ((~~You must:~~

~~•~~)) (1) You must shut-down the engine while filling fuel tanks.

((~~•~~)) (2) You must fill fuel tanks and charge batteries in areas that are:

((~~–~~)) (a) Open and well-ventilated; ((~~AND~~

~~–~~)) and

(b) Free of flame, sparks, or other hazards that may cause fire or explosion.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-500 Section contents.

Summary

((~~IMPORTANT:~~)) Important:

This section applies to manually propelled, self-propelled, and boom-supported elevating work platforms.

Your responsibility:

To properly train elevating work platform operators.

((~~WAC 296-869-50005~~

~~Operator authorization and training~~

~~WAC 296-869-50010~~

~~Specific model training~~

~~WAC 296-869-50015~~

~~Operator training records~~))

You must meet the requirements...	in this section:
Operator authorization and training	WAC 296-869-50005
Specific model training	WAC 296-869-50010
Operator training records	WAC 296-869-50015

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-50005 Operator authorization and training. ((~~**You must:**~~

~~•~~)) (1) You must permit only trained and authorized personnel to operate elevating work platforms.

((~~•~~)) (2) You must train operators in all of the following:

((~~–~~)) (a) The manufacturer's operating and maintenance manuals;

((~~–~~)) (b) Your work instructions;

((~~–~~)) (c) The requirements of this chapter.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-50010 Specific model training. ((~~**You must:**~~

~~•~~)) (1) You must make sure operators:

((–)) (a) Know the required manuals supplied by the manufacturer are stored in a weather resistant compartment and where the compartment is located; ((~~AND~~

–)) and

(b) Refer to the manuals when necessary.

((~~•~~)) (2) You must make sure operators do all of the following before operating an elevating work platform:

((–)) (a) Read and understand the manufacturer's operating instructions and your safety rules, or have them explained by a qualified person;

((–)) (b) Understand, by reading or by having a qualified person explain, all decals, warnings, and instructions displayed on the elevating work platform;

((–)) (c) Are instructed by a qualified person in the intended purpose and function of each control.

((~~•~~)) (3) You must have operator trainees demonstrate their knowledge and proficiency during actual operation of an elevating work platform under the following conditions:

((–)) (a) Under the direction of a qualified person;

((–)) (b) In an area free of obstructions; and

((–)) (c) Using an elevating work platform that is:

((■)) (i) The same model that they will be operating; ((~~OR~~

■)) or

(ii) One that has similar controls and operating characteristics.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-50015 Operator training records. ((~~You must:~~

~~•~~)) You must retain records of the operators trained on each model of elevating work platform for at least:

((–)) (1) Three years for manually propelled and boom-supported elevating work platforms; ((~~AND~~

–)) and

(2) Four years for self-propelled elevating work platforms.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-600 Section contents.

Summary

((~~IMPORTANT:~~)) Important:

This section applies to manually propelled, self-propelled, and boom-supported elevating work platforms.

Your responsibility:

To meet these requirements when operating elevating work platforms.

((~~WAC 296-869-60005~~

~~Intended use~~

~~WAC 296-869-60010~~

~~Workplace survey~~
~~WAC 296-869-60015~~
~~Hazardous locations~~
~~WAC 296-869-60020~~
~~Set up~~
~~WAC 296-869-60025~~
~~Travel speed~~
~~WAC 296-869-60030~~
~~Driving~~
~~WAC 296-869-60035~~
~~Elevating and lowering the platform~~
~~WAC 296-869-60040~~
~~Working from the platform~~
~~WAC 296-869-60045~~
~~Malfunctions or unsafe conditions~~))

You must meet the requirements…	**in this section:**
Intended use	WAC 296-869-60005
Workplace survey	WAC 296-869-60010
Hazardous locations	WAC 296-869-60015
Set up	WAC 296-869-60020
Travel speed	WAC 296-869-60025
Driving	WAC 296-869-60030
Elevating and lowering the platform	WAC 296-869-60035
Working from the platform	WAC 296-869-60040
Malfunctions or unsafe conditions	WAC 296-869-60045

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60005 Intended use. ((~~You must:~~
~~•~~)) You must make sure elevating work platforms are used only for their intended purpose as specified by the manufacturer.

Note: Misuse of an elevating work platform includes, but is not limited to:
((•)) 1. Using the elevating work platform as a crane.
((•)) 2. Using the platform to jack the wheels off the ground unless the machine was designed for that purpose by the manufacturer.
((•)) 3. Operating the elevating work platform from a truck, trailer, railway car, floating vessel, scaffold, or similar equipment unless the application is approved in writing by the manufacturer.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60010 Workplace survey. ((~~You must:~~
~~•~~)) You must have the operator survey the area before and during use of an elevating work platform for hazards such as:
((–)) (1) Drop-offs or holes;
((–)) (2) Slopes;

((–)) (3) Bumps and floor obstructions;
((–)) (4) Debris;
((–)) (5) Overhead obstructions and high voltage conductors;
((–)) (6) Hazardous locations;
((–)) (7) Inadequate surface and support to withstand the load imposed on them by the elevating work platform in all operating configurations;
((–)) (8) Wind and weather conditions;
((–)) (9) Unauthorized persons in the area;
((–)) (10) Other possible unsafe conditions.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60015 Hazardous locations. ((~~**You must:**~~
~~•~~)) (1) You must determine the hazard classification of any area where the elevating work platform will operate using National Fire Protection Association (NFPA) 505-2002, Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations.
((~~•~~)) (2) You must make sure only approved elevating work platforms are used in Class I, II, or III locations.
((~~•~~)) (3) You must make sure elevating work platforms are used in hazardous (classified) locations as follows:
((–)) (a) Elevating work platforms authorized to be used in Class 1 locations are shown in Table 3, Approved Elevating Work Platform Use in Class 1 Locations;
((–)) (b) Elevating work platforms authorized to be used in Class 2 locations are shown in Table 4, Approved Elevating Work Platform Use in Class 2 Locations;
((–)) (c) Elevating work platforms authorized to be used in Class 3 locations are shown in Table 5, Approved Elevating Work Platform Use in Class 3 Locations.
((~~•~~)) (4) You must make sure elevating work platforms authorized to be used in unclassified locations are:
((–)) (a) Approved elevating work platforms designated as Type D, E, G, or LP; ((~~**AND**~~
–)) and
(b) Elevating work platforms that meet the requirements of Type D, E, G, or LP elevating work platforms.
((~~•~~)) (5) You must have operators report any hazardous atmosphere or location that becomes apparent while operating the elevating work platform.
((~~**Definitions:**~~
~~• An **unclassified location** is an area that's not designated as a Class 1, 2, or 3 location.~~
~~• The **type designation** is a code to identify types of elevating work platforms. It is used to determine if an elevating work platform can be used in a specific classified or unclassified location.~~
~~– **D** refers to elevating work platforms that are diesel engine powered that have minimum safeguards against inherent fire hazards.~~
~~– **DS** refers to diesel powered elevating work platforms that, in addition to meeting all the requirements for type D elevating work~~

~~platforms, are provided with additional safeguards to the exhaust, fuel and electrical systems.~~

~~- **DY** refers to diesel powered elevating work platforms that have all the safeguards of the DS elevating work platforms and, in addition, any electrical equipment is completely enclosed. They are equipped with temperature limitation features.~~

~~- **E** refers to electrically powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.~~

~~- **ES** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E elevating work platforms, have additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.~~

~~- **EE** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E and ES type elevating work platforms, have their electric motors and all other electrical equipment completely enclosed.~~

~~- **EX** refers to electrically powered elevating work platforms that differ from E, ES, or EE type elevating work platforms in that the electrical fittings and equipment are designed, constructed and assembled to be used in atmospheres containing flammable vapors or dusts.~~

~~- **G** refers to gasoline powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.~~

~~- **GS** refers to gasoline powered elevating work platforms that are provided with additional exhaust, fuel, and electrical systems safeguards.~~

~~- **LP** refers to liquefied petroleum gas-powered elevating work platforms that, in addition to meeting all the requirements for type G elevating work platforms, have minimum acceptable safeguards against inherent fire hazards.~~

~~- **LPS** refers to liquefied petroleum gas-powered elevating work platforms that in addition to meeting the requirements for LP type elevating work platforms, have additional exhaust, fuel, and electrical systems safeguards.~~))

Table 3
Approved Elevating Work Platform Use in Class 1 Locations

Class 1 Locations in which flammable gases or vapors are, or may be, present in the air in quantities sufficient to produce explosive or ignitable mixtures							
Division 1 Conditions exist continuously, intermittently, or periodically under normal operating conditions.				**Division 2** Conditions may occur accidentally, for example, due to a puncture of a storage drum.			
Group A	**Group B**	**Group C**	**Group D**	**Group A**	**Group B**	**Group C**	**Group D**
Acetylene	Hydrogen	Ethyl ether	Acetone Alcohols Benzene Gasoline Lacquer Solvent	Acetylene	Hydrogen	Ethyl ether	Acetone Alcohols Benzene Gasoline Lacquer Solvent
No type can be used	**No type can be used**	**No type can be used**	**Use this elevating work platform type:** **EX**	**No type can be used**	**No type can be used**	**No type can be used**	**Use this elevating work platform type:** **DS** **DY**

Class 1 Locations in which flammable gases or vapors are, or may be, present in the air in quantities sufficient to produce explosive or ignitable mixtures							
Division 1 Conditions exist continuously, intermittently, or periodically under normal operating conditions.				**Division 2** Conditions may occur accidentally, for example, due to a puncture of a storage drum.			
							ES **EE** **EX** **GS** **LPS**

Table 4
Approved Elevating Work Platform Use in Class 2 Locations

Class 2 Locations which are hazardous because of the presence of combustible dust					
Division 1 Explosive mixture may be present under normal operating conditions, or where failure of equipment may cause the condition to exist simultaneously with arcing or sparking of electrical equipment, or where dusts of an electrically conducting nature may be present.			**Division 2** Explosive mixture not normally present, but where deposits of dust may cause heat rise in electrical equipment, or where such deposits may be ignited by arcs or sparks from electrical equipment.		
Group E	**Group F**	**Group G**	**Group E**	**Group F**	**Group G**
Metal dust	Carbon black Coal dust Coke dust	Grain dust Flour dust Starch dust Organic dust	Metal dust	Carbon black Coal dust Coke dust	Grain dust Flour dust Starch dust Organic dust
No type can be used	**Use this elevating work platform type:** **EX**	**Use this elevating work platform type:** **EX**	**No type can be used**	**No type can be used**	**Use this elevating work platform type:** **DS** **DY** **ES** **EE** **EX** **GS** **LPS**

Table 5
Approved Elevating Work Platform Use in Class 3 Locations

Class 3 Locations where easily ignitable fibers or flyings are present but not likely to be in suspension in quantities sufficient to produce ignitable mixtures	
Division 1 Locations in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured, or used.	**Division 2** Locations in which easily ignitable fibers are stored or handled (except in the process of manufacture).
Use this elevating work platform type:	**Use this elevating work platform type:**

Class 3	
DY	DS
EE	DY
EX	E
	ES
	EE
	EX
	GS
	LPS

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60020 Set up. ((~~You must:~~

~~•~~)) (1) You must prohibit positioning the elevating work platform against another object in order to steady the platform.

((~~•~~)) (2) You must do the following when other moving equipment or vehicles are present:

((~~–~~)) (a) Take special precautions to meet the requirements of local ordinances or workplace safety standards; ((~~AND~~

~~–~~)) and

(b) Use warnings such as, but not limited to, flags, roped-off areas, flashing lights and barricades.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60025 Travel speed. You must make sure the operator limits travel speed according to conditions, including:

((~~•~~)) (1) Condition of the ground or support surface;

((~~•~~)) (2) Congestion;

((~~•~~)) (3) Visibility;

((~~•~~)) (4) Slope;

((~~•~~)) (5) Location of personnel;

((~~•~~)) (6) Other factors that may create a hazard of collision or injury to personnel.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60030 Driving.

((~~IMPORTANT:~~)) Important:

This section does not apply to manually propelled elevating work platforms.

((~~You must:~~

((•)) (1) You must make sure the operator does all of the following before and while driving with the platform elevated:

((–)) (a) Maintains a clear view of the path of travel;

((–)) (b) Keeps a safe distance from obstacles, debris, drop-offs, holes, depressions, ramps, and other hazards to safe travel;

((–)) (c) Keeps a safe distance from overhead obstacles.

((•)) (2) You must prohibit stunt driving and horseplay.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60035 Elevating and lowering the platform. ((~~You must:~~

((•)) (1) You must have the operator make sure all of the following are done before each elevation of the platform:

((–)) (a) The elevating work platform is on a surface that is within the limits specified by the manufacturer;

((–)) (b) Outriggers, stabilizers, extendable axes, or other stability enhancing means are used as required by the manufacturer;

((–)) (c) Guardrails are installed and access gates or openings are closed per the manufacturer's instructions;

((–)) (d) The load and its distribution on the platform and any platform extension does not exceed the manufacturer's rated capacity for the configuration being used;

((–)) (e) There is adequate clearance from overhead obstructions;

((–)) (f) The minimum safe approach distance (MSAD) to energized power lines and parts listed in Table 6, Minimum Safe Approach Distance, is maintained;

((–)) (g) All persons on the platform are wearing fall protection devices and other safety gear if required.

((•)) (2) You must prevent rope, electric cords, hoses and similar objects from becoming entangled with the platform.

((•)) (3) You must have the operator make sure the area is clear of personnel and equipment before lowering the platform.

((•)) (4) You must remove all personnel from a platform that has been caught, snagged, or otherwise prevented from normal motion before attempting to free it using ground controls.

Note: If possible, reverse the platform controls to free a platform that is caught, snagged, or otherwise prevented from normal motion by an adjacent structure or other obstacle.

Table 6
Minimum Safe Approach Distance

Voltage	Minimum Safe Approach Distance
Less than 300 volts (insulated lines)	3 feet (0.9 m)
Less than 300 volts (uninsulated lines)	10 feet (3.1 m)
300 volts to 50 kv	10 feet (3.1 m)
More than 50 kv	10 feet (3.1 m) + 0.4 inches (1.0 cm) for each 1 kv over 50 kv

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60040 Working from the platform. ((~~You must:~~

~~•~~)) (1) You must make sure persons working from the platform:

((–)) (a) Keep a firm footing on the platform; ((~~AND~~

–)) and

(b) Do not use guardrails, planks, ladders, or any other device to gain additional height or reach.

((~~•~~)) (2) You must make sure all persons on the platform of boom-supported elevating work platforms wear a full body harness and lanyard fixed to manufacturer provided and approved attachment points.

((~~•~~)) (3) You must make sure the rated capacities of the platform are not exceeded when transferring loads to the platform at any height.

Note: Guardrails are the primary means of fall protection for manually propelled elevating work platforms.

AMENDATORY SECTION (Amending WSR 06-19-073, filed 9/19/06, effective 1/1/07)

WAC 296-869-60045 Malfunctions or unsafe conditions. ((~~You must:~~

~~•~~)) You must make sure operators, if they suspect a malfunction of the elevating work platform or encounter any hazard or potentially unsafe condition, do all of the following:

((–)) (1) Cease operation.

((–)) (2) Report the problem or malfunction.

((–)) (3) Discontinue using the elevating work platform until problems or malfunctions that affect safe operation have been corrected.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 296-869-700 Definitions.

NEW SECTION

WAC 296-870-099 Definitions.

Anemometer. An instrument for measuring wind velocity.

Angulated roping. A suspension method where the upper point of suspension is inboard from the attachments on the suspended unit, thus causing the suspended unit to bear against the face of the building.

Building face rollers. A specialized form of guide roller designed to ride on the face of the building wall to prevent the platform from abrading the face of the building and to assist in stabilizing the platform.

Building maintenance. Operations such as window cleaning, caulking, metal polishing, reglazing, and general maintenance on building surfaces.

Cable. A conductor, or group of conductors, enclosed in a weatherproof sheath, that may be used to:

• Supply electrical power or control current for equipment;

or

• Provide voice communication circuits.

Carriage. A wheeled vehicle used for the horizontal movement and support of other equipment.

Certification. A written, signed, and dated statement confirming the performance of a requirement.

Combination cable. A cable having both steel structural members capable of supporting the platform, and copper or other electrical conductors insulated from each other and the structural members by nonconductive barriers.

Competent person. Someone who:

• Is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees;

and

• Has the authority to take prompt corrective measures to eliminate them.

Continuous pressure. Operation of a control by requiring constant manual actuation for the control to function.

Control. A system or mechanism used to regulate or guide the operation of equipment.

Davit. A device, used singly or in pairs, for suspending a powered platform from work, storage and rigging locations on the building being serviced. Unlike outriggers, a davit reacts its operating load into a single roof socket or carriage attachment.

Design factor. The ratio of the rated strength of the suspension wire rope to the rated working load. It is calculated using the following formula:

$F = (S \times N)/W$

Where:

F = Design factor

S = Manufacturer's rated strength of one suspension rope

N = Number of suspension ropes under load

W = Rated working load on all ropes at any point of travel.

Equivalent. Alternative design, material or method to protect against a hazard. You have to demonstrate it provides an equal or greater degree of safety for employees than the method, material or design specified in the rule.

Existing installation. A permanent powered platform installation that:

- Was completed before July 23, 1990;

and

- Has had no major modification done after July 23, 1990.

Ground rigged davit. A davit which cannot be used to raise a suspended working platform above the building face being serviced.

Ground rigging. A method of suspending a working platform starting from a safe surface to a point of suspension above the safe surface.

Guide button. A building face anchor designed to engage a guide track mounted on a platform.

Guide roller. A rotating cylindrical member that provides continuous engagement between the suspended or supported equipment and the building guides. It may operate separately or as part of a guide assembly.

Guide shoe. A device that is similar to a guide roller but is designed to provide a sliding contact between the shoe and the building guides.

Hoisting machine. A device intended to raise and lower a suspended or supported unit.

Installation. A powered platform installation consists of all the equipment and the parts of the building involved with using the powered platform for building maintenance.

Interlock. A device designed to ensure that operations or motions occur in proper sequence.

Intermittent stabilization. A method of platform stabilization in which the angulated suspension wire ropes are secured to regularly spaced building anchors.

Lanyard. A flexible line of rope, wire rope or strap which is used to secure the body harness to a deceleration device, lifeline or anchorage.

Lifeline. A component consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline), or that connects to anchorages at both ends to stretch horizontally (horizontal lifeline). It serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Live load. The total static weight of workers, tools, parts, and supplies that the equipment is designed to support.

New installation. A permanent powered platform installation that was completed, or an existing installation that has had major modifications done, after July 23, 1990.

Operating control. A mechanism regulating or guiding the operation of equipment that makes sure the equipment operates in a specific mode.

Operating device. A push button, lever, or other manual device used to actuate a control.

Outrigger. A device, used singly or in pairs, for suspending a working platform from work, storage, and rigging locations on the building being serviced. Unlike davits, an outrigger reacts its operating moment load as at least two opposing vertical components acting into two or more distinct roof points and/or attachments.

Poured socket. A method of providing wire rope termination in which the ends of the rope are held in a tapered socket by means of poured spelter or resins.

Primary brake. A brake designed to be applied automatically whenever power to the prime mover is interrupted or discontinued.

Prime mover. The source of mechanical power for a machine.

Rated load. The manufacturer's specified maximum load.

Rated strength. The strength of wire rope, as designated by its manufacturer or vendor, based on standard testing procedures or acceptable engineering design practices.

Rated working load. The combined static weight of workers, materials, and suspended or supported equipment.

Registered professional engineer. A person who has been duly and currently registered and licensed by an authority within the United States or its territories to practice the profession of engineering.

Roof-powered platform. A powered platform having the raising and lowering mechanism located on the roof.

Roof-rigged davit. A davit used to raise the suspended working platform above the building face being serviced. This type of davit can also be used to raise a suspended working platform which has been ground rigged.

Rope. The equipment, such as wire rope, that is used to suspend a component of an equipment installation.

Safe surface. A horizontal surface that provides reasonable assurance that personnel occupying the surface will be protected from falls. This protection can be provided by location, a fall protection system, or other equivalent method.

Secondary brake. A brake designed to arrest the descent of the suspended or supported equipment in the event of an overspeed condition.

Stability factor. The ratio of the stabilizing moment to the overturning moment.

Stabilizer tie. A flexible line connecting the building anchor and the suspension wire rope supporting the platform.

Supported equipment. Building maintenance equipment that is held in or moved to its working position by means of attachment directly to the building or extensions of the building being maintained.

Suspended equipment. Building maintenance equipment that is suspended and raised or lowered to its working position by means of ropes or combination cables attached to some anchorage above the equipment.

Tie-in guides. The portion of a building that provides continuous positive engagement between the building and a suspended or supported unit during its vertical travel on the face of the building.

Transportable outriggers. Outriggers designed to be moved from one work location to another.

Type F powered platform. A powered platform that has both of the following characteristics:

- The working platform is suspended by at least four wire ropes and designed so that failure of any one wire rope will not substantially alter the normal position of the working platform; and
- Only one layer of hoisting rope is permitted on the winding drums.

Type T powered platform. A powered platform installation that has a working platform suspended by at least two wire ropes. The platform will not fall to the ground if a wire rope fails, but the working platform's normal position would be upset.

Weatherproof. Constructed or protected so that exposure to the weather will not interfere with successful operation.

Winding drum hoist. A type of hoisting machine that accumulates the suspension wire rope on the hoisting drum.

Working platform. The suspended or supported equipment intended to provide access to the face of the building and manned by persons engaged in building maintenance.

Wrap. One complete turn of the suspension wire rope around the surface of a hoist drum.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-100 Scope. This chapter covers permanent powered platform installations dedicated to interior or exterior building maintenance of a specific structure or group of structures.

Building maintenance includes, but is not limited to, tasks such as window cleaning, caulking, metal polishing, and reglazing.

((~~Exemption:~~)) **EXEMPTION:** This chapter does not apply to suspended scaffolds covered by a separate chapter, Scaffolds, chapter 296-874 WAC.

((~~**Definition:**~~

~~A powered platform **installation** consists of all the equipment and the parts of the building involved with using the powered platform for building maintenance.~~))

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-200 Section contents.

Your responsibility:

To meet these requirements when using powered platforms.

((~~WAC 296-870-20005~~
~~Building owner certifications.~~
~~WAC 296-870-20010~~
~~Personnel requirements.~~
~~WAC 296-870-20015~~
~~Platform and hoist load limits.~~
~~WAC 296-870-20020~~
~~Obstructions and slipping hazards.~~
~~WAC 296-870-20025~~
~~Wind and adverse weather.~~
~~WAC 296-870-20030~~
~~Corrosive substances.~~
~~WAC 296-870-20035~~
~~Heat-producing processes.~~
~~WAC 296-870-20040~~
~~Fall protection.~~
~~WAC 296-870-20045~~
~~Communications.~~))

You must meet the requirements...	**in this section:**
Building owner certifications	WAC 296-870-20005
Personnel requirements	WAC 296-870-20010

You must meet the requirements...	in this section:
Platform and hoist load limits	WAC 296-870-20015
Obstructions and slipping hazards	WAC 296-870-20020
Wind and adverse weather	WAC 296-870-20025
Corrosive substances	WAC 296-870-20030
Heat-producing processes	WAC 296-870-20035
Fall protection	WAC 296-870-20040
Communications	WAC 296-870-20045

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20005 Building owner certifications. ((~~You must:~~

~~•~~)) You must obtain written certification from the building owner of any building with a powered platform installation that was completed or had major modification done after July 23, 1990, that the building and equipment meets the requirements of new installations-buildings, WAC 296-870-600 and new installations-equipment, WAC 296-870-700 of this chapter.

Note: The building owner needs to base the certification on:
((•)) 1. The field test of the installation done before it is first placed into service or following any major modification to an existing installation;
AND
((•)) 2. All other relevant available information, including but not limited to:
((–)) a. Test data;
((–)) b. Equipment specifications;
((–)) c. Verification by a registered professional engineer.

((~~You must:~~

~~•~~)) You must obtain written certification from the building owner that the installation:

((–)) (1) Has been inspected, tested, and maintained as required by inspection, testing, and maintenance, WAC 296-870-300 of this chapter; ((~~AND~~

–)) and

(2) All fall protection anchorages meet the requirements of Appendix C—Personal fall arrest system, WAC 296-24-88050, found in the General safety and health standards, chapter 296-24 WAC.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20010 Personnel requirements. ((~~You must:~~

~~•~~)) (1) You must prohibit employees from using the installation until the building owner has provided the required written certifications.

((~~•~~)) (2) You must make sure working platforms are operated only by persons proficient in the operation, safe use and inspection of the particular working platform.

References: ((•)) 1. Building owner certification requirements are found in Building owner certifications, WAC 296-870-20005.

((•)) 2. Training requirements for persons using platforms are found in Existing installations, WAC 296-870-400.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20015 Platform and hoist load limits. ((~~You must:~~

~~•~~)) (1) You must make sure the load on the working platform does not exceed the rated load stated on the platform load rating plate.

((~~•~~)) (2) You must make sure hoists are not subjected to a load greater than one hundred twenty-five percent of their rated load.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20020 Obstructions and slipping hazards. ((~~You must:~~

~~•~~)) (1) You must prohibit the accumulation of tools, materials and debris on the platform that are not related to the work in progress.

((~~•~~)) (2) You must make sure stabilizer ties are:

((~~–~~)) (a) Located to allow movement along the full length of the platform without interference; ((~~AND~~

~~–~~)) and

(b) Long enough not to become entangled in rollers, hoists, or other machinery.

((~~•~~)) (3) You must prohibit employees from working on platforms covered with snow, ice, or other slippery material.

((~~Exemption:~~)) Employees may be on platforms as necessary to remove the slipping hazard.
EXEMPTION:

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20025 Wind and adverse weather. ((~~You must:~~

~~•~~)) (1) You must prohibit using powered platforms in:

((~~–~~)) (a) Winds exceeding twenty-five miles per hour (40.2 km/hr); ((~~OR~~

~~–~~)) or

(b) Any other severe adverse weather conditions.

((~~Exemption:~~)) Employees may use the platform during severe adverse weather conditions only to move it from an operating to a storage position.
EXEMPTION:

((~~You must:~~

~~•~~)) (2) You must have an anemometer mounted on the platform of an exterior installation to provide on-site wind velocities before and during use of the platform.

Note: ((•)) 1. Determine wind speed using the best available information, including on-site anemometer readings and local weather forecasts.
((•)) 2. The anemometer may be a portable or hand held unit which is temporarily mounted during platform use.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20030 Corrosive substances. ((~~You must:~~

~~•~~)) (1) You must protect the platform, wire ropes, and lifelines from damage due to acids or other corrosive substances by using the precautions recommended by any of the following:

((~~–~~)) (a) Corrosive substance producer or supplier;

((~~–~~)) (b) Platform manufacturer;

((~~–~~)) (c) Other equivalent information source.

((~~•~~)) (2) You must wash down platform members which have been exposed to acids or other corrosive substances with a neutralizing solution as recommended by the corrosive substance producer or supplier.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20035 Heat-producing processes. ((~~You must:~~

~~•~~)) (1) You must protect the platform members, wire ropes, and lifelines when using a heat-producing process.

((~~•~~)) (2) You must make sure wire ropes and lifelines which have been contacted by a heat-producing process are considered to be permanently damaged and not used.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20040 Fall protection. ((~~You must:~~

~~•~~)) You must protect employees on working platforms with a personal fall arrest system that meets the requirements of Appendix C—Personal fall arrest system, WAC 296-24-88050, found in the General safety and health standards, chapter 296-24 WAC.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-20045 Communications. ((~~You must:~~

~~•~~)) You must make sure the voice communication system between the equipment operators and persons stationed within the building is operable and manned whenever the platform is being used.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-300 Section contents.

Summary

Your responsibility:

To make sure powered platforms are inspected, tested, and maintained to keep them in safe operating condition.

((~~WAC 296-870-30005~~
~~Maintenance.~~
~~WAC 296-870-30010~~
~~Initial installation and after major modification inspection and testing.~~
~~WAC 296-870-30015~~
~~Before use inspections and tests.~~
~~WAC 296-870-30020~~
~~Periodic inspections and tests.~~
~~WAC 296-870-30025~~
~~Reshackling and resocketing wire ropes.~~
~~WAC 296-870-30030~~
~~Disabling safety or electrical protective devices.~~))

You must meet the requirements…	in this section:
Maintenance	WAC 296-870-30005
Initial installation and after major modification inspection and testing	WAC 296-870-30010
Before use inspections and tests	WAC 296-870-30015
Periodic inspections and tests	WAC 296-870-30020
Reshackling and resocketing wire ropes	WAC 296-870-30025
Disabling safety or electrical protective devices	WAC 296-870-30030

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-30005 Maintenance. ((~~**You must:**~~

~~•~~)) (1) You must make sure all parts of the equipment that affect safe operation are maintained in proper working order so they are able to perform their intended functions. This includes, but is not limited to, all of the following:

((–)) (a) Roof systems including roof track systems, tie-downs, or similar equipment;

((–)) (b) Building face guiding members including T-rails, indented mullions, or equivalent guides located in the face of a building;

((–)) (c) Brackets for cable stabilizers.

((~~•~~)) (2) You must take out of service any equipment that is not in proper working order.

((~~•~~)) (3) You must make sure the following parts are kept clean:

((~~–~~)) (a) Control or power contacts and relays; ((~~AND~~ ~~–~~)) and

(b) All other parts whose proper function would be affected by dirt or other contaminants.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-30010 Initial installation and after major modification inspection and testing. ((~~**You must:**~~ ~~•~~)) (1) You must make sure a completed powered platform installation has been inspected and tested by the building owner:

((~~–~~)) (a) Before it was first placed into service; ((~~AND~~ ~~–~~)) and

(b) Before it was returned to service after major modification was done.

((~~•~~)) (2) You must make sure the inspection and tests determined that:

((~~–~~)) (a) All parts of the installation met the applicable requirements of this chapter; ((~~AND~~ ~~–~~)) and

(b) All safety and operating equipment functioned as required.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-30015 Before use inspections and tests. ((~~**You must:**~~ ~~•~~)) You must complete the inspections and tests contained in Table 1, Before Use Inspections and Tests, before allowing persons to use the platform.

Table 1
Before Use Inspections and Tests

What:	When:	Inspection and test requirements:
((~~Working platforms and their components~~	• ~~Before every use~~ ~~and~~ • ~~After each occurrence which might affect the platform's structural integrity~~	~~Inspect for visible defects~~

What:	When:	Inspection and test requirements:
~~Suspension wire ropes~~	~~• Before every use~~ ~~and~~ ~~• After each occurrence which might affect the wire rope's integrity~~	~~Visible inspection by a competent person for defects and gross damage~~
~~Governors and secondary brakes~~	~~Before use each day~~	~~Test before use. If testing is not feasible, visually inspect the brake to make sure it is free to operate~~
~~Hoists~~	~~Each day before lowering personnel below the top elevation of the building~~	~~Test in the lifting direction with the intended load to make sure it has sufficient capacity to raise personnel back to the boarding level~~))
Working platforms and their components	• Before every use **and** • After each occurrence which might affect the platform's structural integrity	Inspect for visible defects
Suspension wire ropes	• Before every use **and** • After each occurrence which might affect the wire rope's integrity	Visible inspection by a competent person for defects and gross damage
Governors and secondary brakes	Before use each day	Test before use. If testing is not feasible, visually inspect the brake to make sure it is free to operate
Hoists	Each day before lowering personnel below the top elevation of the building	Test in the lifting direction with the intended load to make sure it has sufficient capacity to raise personnel back to the boarding level

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-30020 Periodic inspections and tests. ((~~You must:~~

~~•~~)) (1) You must make sure the building owner has completed and documented the periodic inspections and tests shown in Table 2.

((~~•~~)) (2) You must make sure any documentation required by Table 2, Periodic Inspections and Tests, is readily available for your own review and that of the director or an authorized representative.

((~~•~~)) (3) You must make sure suspension wire rope is used and maintained as specified in the wire rope manufacturer's recommended procedures.

((~~•~~)) (4) You must remove from service a wire rope that has any of the following:

((–)) (a) Broken wires exceeding three wires in one strand or six wires in one rope lay;

((–)) (b) Distortion of rope structure such as would result from crushing or kinking;

((–)) (c) Evidence of heat damage;

((–)) (d) Evidence of rope deterioration from corrosion;

((–)) (e) A broken wire within eighteen inches (460.8 mm) of the end attachments;

((–)) (f) Noticeable rusting and pitting;

((–)) (g) Evidence of core failure. This could be indicated by a lengthening of rope lay, protrusion of the rope core and a reduction in rope diameter;

((–)) (h) More than one valley break (broken wire);

((–)) (i) Outer wire wear exceeds one-third of the original outer wire diameter;

((–)) (j) Any other condition which the competent person determines has significantly affected the integrity of the rope.

Table 2
Periodic Inspections and Tests

What to inspect:	When to inspect:	Inspection and test requirements:	Building owner documentation:
Related building supporting structures	Intervals not exceeding twelve months	Inspection by a competent person	Keep a certification record of each inspection and test that includes all of the following: ((–)) 1. Date of the inspection ((–)) 2. Signature of the person who performed the inspection ((–)) 3. Number, or other identifier, of the building support structure and equipment which was inspected

What to inspect:	When to inspect:	Inspection and test requirements:	Building owner documentation:
All parts of the equipment including control systems	Intervals specified by the manufacturer or supplier, but not to exceed twelve months	Inspection and test, where necessary, by a competent person to determine: ((–)) 1. They are in safe operating condition; and ((~~and~~ –)) 2. Parts subject to wear, such as wire ropes, bearings, gears, and governors have not worn to such an extent as to affect the safe operation of the installation	
Working platform	((•)) Every thirty days; or ((~~or~~ •)) Before each work cycle if the work cycle is more than thirty days	Maintenance inspection and test by a competent person following procedures recommended by the manufacturer	Keep a certification record of each inspection and test that includes all of the following: ((–)) 1. Date of the inspection and test ((–)) 2. Signature of the person who performed the inspection and test ((–)) 3. An identifier for the platform installation which was inspected
Governors and secondary brakes	Intervals specified by the manufacturer or supplier, but not to exceed twelve months	Inspection and test by a competent person. Results need to confirm: ((–)) 1. The initiating device for the secondary braking system operates at the proper overspeed; and ((~~and~~ –)) 2. The secondary brake is functioning properly If any hoisting machine or initiating device for the secondary brake system is removed from the equipment for testing, reinspect all reinstalled and directly related components before returning the equipment installation to service	

What to inspect:	When to inspect:	Inspection and test requirements:	Building owner documentation:
Suspension wire ropes	((•)) Once a month for ropes in service ((~~and~~ •)) Before they are returned to service for ropes that have been out of service for thirty days or more	A thorough inspection by a competent person	Keep a certification record of each monthly inspection that includes all of the following: ((–)) 1. Date of the inspection ((–)) 2. Signature of the person who performed the inspection ((–)) 3. Number, or other identifier, of the wire rope which was inspected

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-30025 Reshackling and resocketing wire ropes. ((~~You must:~~

~~•~~)) (1) You must make sure the nondrum ends of hoisting wire ropes are reshackled or, if the rope uses poured socket fastenings, resocketed at intervals not exceeding twenty-four months.

((~~•~~)) (2) You must make sure enough rope is cut from the end of the rope during reshackling or resocketing to remove any damaged or fatigued portions.

((~~•~~)) (3) You must make sure resocketed ropes meet the requirements of Suspension wire ropes and rope connections, WAC 296-870-70085.

((~~•~~)) (4) You must make sure limit switches affected by resocketed ropes are reset if necessary.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-30030 Disabling safety or electrical protective devices. ((~~You must:~~

~~•~~)) (1) You must make sure no person renders any required safety devices or electrical protective devices inoperative unless necessary for tests, inspections, or maintenance.

((~~•~~)) (2) You must restore any disabled devices to normal operating condition immediately after the test, inspection or maintenance is completed.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-400 Section contents.

Summary
Your responsibility:
To train employees who operate or inspect powered platforms.
((~~WAC 296-870-40005~~
~~General training.~~
~~WAC 296-870-40010~~
~~Emergency action plan.~~
~~WAC 296-870-40015~~
~~Certification.~~))

You must meet the requirements...	in this section:
General training	WAC 296-870-40005
Emergency action plan	WAC 296-870-40010
Certification	WAC 296-870-40015

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-40005 General training. ((~~You must:~~
~~•~~)) (1) You must make sure employees are trained by a competent person.
((~~•~~)) (2) You must train employees who operate powered platforms in all of the following:
((~~–~~)) (a) Recognizing safety hazards and the preventative measures to control or minimize hazards that are associated with:
((~~■~~)) (i) Using powered platforms, including those that apply to the specific platform they will be operating; ((~~AND~~
~~■~~)) and
(ii) Their individual work tasks.
((~~–~~)) (b) Emergency action plan procedures;
((~~–~~)) (c) Work procedures for operating, safely using and inspecting powered platforms.
((~~•~~)) (3) You must provide written work procedures for operating, safely using, and inspecting working platforms to be used in employee training.

Note: Visual presentations, such as graphics and pictures, may be used instead of written work procedures if it improves employee understanding. The powered platform system components manufacturers' operating manuals can serve as the basis for these work procedures.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-40010 Emergency action plan. ((~~You must:~~
~~•~~)) (1) You must make sure a written emergency action plan is developed and implemented for each kind of working platform operation that contains at least both of the following:
((~~–~~)) (a) An explanation of the emergency procedures to be followed in the event of any of the following situations:
((~~■~~)) (i) Power failure;
((~~■~~)) (ii) Equipment failure;
((~~■~~)) (iii) Other emergencies which may be encountered.

((–)) (b) That employees are informed about the building emergency escape routes, procedures and alarm systems.

((•)) (2) You must review with each employee those parts of the plan they need to know to protect themselves in the event of an emergency:

((–)) (a) Upon initial assignment; ((~~AND~~ –)) and

(b) Whenever the plan is changed.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-40015 Certification. ((~~You must:~~ ~~•~~)) (1) You must certify in writing that employees have been trained in operating and inspecting a working platform.

((•)) (2) You must make sure training certifications are:

((–)) (a) Prepared when the employee has completed training; ((~~AND~~ –)) and

(b) Contain all of the following:

((■)) (i) Name of the person trained;

((■)) (ii) Signature of the person who conducted the training;

((■)) (iii) Date training was completed.

((•)) (3) You must make sure the training certification is:

((–)) (a) Maintained while the employee works for you; ((~~AND~~ –)) and

(b) Kept readily available for review by the director or an authorized representative.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-500 Section contents.

((~~IMPORTANT:~~)) Summary

Important:

This section applies to permanent powered platform installations that meet **all** of the following:

((•)) (1) The installation was completed between August 27, 1971, and July 24, 1990;

((•)) (2) There has been no major modification to the installation after July 23, 1990; and

((•)) (3) The working platforms use electric-powered, winding drum type hoisting machines.

Note: ((•)) 1. Platforms operated by other types of power and using other types of hoisting machines are allowed if they:
((–)) (a) Have adequate protective devices for the type of power used; ((~~AND~~)) and
((–)) (b) Provide reasonable safety for persons using or exposed to the equipment.
((•)) 2. Other types of hoisting machines include, but are not limited to, machines such as traction drum hoisting machines, air powered machines, hydraulic powered machines, and internal combustion machines.

((~~**Definition:**~~

~~An **existing installation** is a permanent powered platform installation that:~~

~~– Was completed before July 23, 1990;~~

~~**AND**~~

~~- Has had no major modification done after July 23, 1990.~~))

Your responsibility:

To make sure powered platform installations completed between August 27, 1971, and July 24, 1990, meet these building and equipment requirements.

((~~WAC 296-870-50005~~
~~Design, construction, and installation.~~
~~WAC 296-870-50010~~
~~Fall protection.~~
~~WAC 296-870-50015~~
~~Electrical.~~))

You must meet the requirements...	in this section:
Design, construction, and installation	WAC 296-870-50005
Fall protection	WAC 296-870-50010
Electrical	WAC 296-870-50015

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-50005 Design, construction, and installation. ((~~**You must:**~~

~~•~~)) (1) You must make sure powered platforms designated as Type F meet all the requirements in Part II of ANSI A120.1-1970, American National Standard Safety Requirements for Powered Platforms for Exterior Building Maintenance.

((~~**Definition:**~~

~~A **Type F powered platform** has both of the following characteristics:~~

~~- The working platform is suspended by at least four wire ropes and designed so that failure of any one wire rope will not substantially alter the normal position of the working platform~~

~~- Only one layer of hoisting rope is permitted on the winding drums.~~

~~**You must:**~~

~~•~~)) (2) You must make sure powered platforms designated as Type T meet all the requirements in Part III of ANSI A120.1-1970 American National Standard Safety Requirements for Powered Platforms for Exterior Building Maintenance except for section 28, Safety belts and lifelines.

((~~**Definition:**~~

~~A **Type T powered platform** has a working platform that is suspended by at least two wire ropes. The platform will not fall to the ground if a wire rope fails, but the working platform's normal position would be upset.~~))

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-50010 Fall protection. ((~~You must:~~

~~•~~)) (1) You must make sure the fall protection system of both Type F and Type T powered platforms meet the requirements of Appendix C—Personal fall arrest system, WAC 296-24-88050, found in the General safety and health standards, chapter 296-24 WAC.

((~~•~~)) (2) You must make sure working platforms have permanent guardrails that meet all of the following requirements:

((–)) (a) Guardrails on the building side (front) of the platform have a top rail that is not less that thirty-eight inches and not more than forty-five inches high.

((–)) (b) Guardrails on the other three sides have a top rail that is not less than forty-five inches high.

((–)) (c) Top rails are able to withstand a force of at least two hundred pounds.

((–)) (d) Guardrails have a midrail around the entire platform between the top rail and the toeboard.

Reference: Ramps and walkways that are four feet (1.2 m) or more above a lower level need to have a guardrail system. These requirements are found in Working Surfaces, Guarding Floors and Wall Openings, Ladders, Part J-1, in the General safety and health standards, chapter 296-24 WAC.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-50015 Electrical. ((~~You must:~~

~~•~~)) (1) You must make sure electrical wiring and equipment meets the requirements of the National Electric Code, NFPA 70-1987, ANSI C1-1987, except as modified by ANSI A120.1-1970 American National Standard Safety Requirements for Powered Platforms for Exterior Building Maintenance.

((~~•~~)) (2) You must make sure runway conductor systems are:

((–)) (a) Designed for use in exterior locations; ((~~AND~~

–)) and

(b) Located to prevent contact with water or accumulated snow.

((~~•~~)) (3) You must make sure conductors, collectors, and disconnecting means meet the requirements for cranes and hoists in Article 610 of the National Electrical Code, NFPA 70-1987, ANSI C1-1987.

((~~•~~)) (4) You must make sure the power conductors are paralleled by a grounded conductor that meets both of the following:

((–)) (a) It cannot be opened by the disconnecting means; ((~~AND~~

–)) and

(b) The system is designed to not pose a hazard to persons in the area.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-600 Section contents.

((~~IMPORTANT:~~)) **Summary**

Important:

This section applies to permanent powered platform installations that meet **either** of the following:

((~~•~~)) (1) Were completed after July 23, 1990;

OR

((~~•~~)) (2) Have had major modifications done to an existing installation after July 23, 1990.

((~~**Definition:**~~

~~A **new installation** is a permanent powered platform installation that was completed, or an existing installation that has had major modifications done, after July 23, 1990.~~))

Note: If affected parts of the building meet the requirements of the edition of American National Standard Institute/American Society of Mechanical Engineers ANSI/ASME A120.1, Safety Requirements for Powered Platforms for Building Maintenance, that was in effect when the powered platform installation was completed, they will be considered to meet the requirements of this section.

Your responsibility:

To make sure new powered platform installations meet these building requirements.

((~~WAC 296-870-60005~~

~~Design.~~

~~WAC 296-870-60010~~

~~Stabilization systems.~~

~~WAC 296-870-60015~~

~~Intermittent stabilization system.~~

~~WAC 296-870-60020~~

~~Button guide stabilization system.~~

~~WAC 296-870-60025~~

~~Stabilization system using angulated roping and building face rollers.~~

~~WAC 296-870-60030~~

~~Cable stabilization.~~

~~WAC 296-870-60035~~

~~Electrical.~~

~~WAC 296-870-60040~~

~~Guarding roofs and other elevated areas.~~

~~WAC 296-870-60045~~

~~Moving equipment.~~

~~WAC 296-870-60050~~

~~Repair and maintenance.~~

~~WAC 296-870-60055~~

~~Communications.~~))

You must meet the requirements…	**in this section:**
Design	WAC 296-870-60005
Stabilization systems	WAC 296-870-60010
Intermittent stabilization system	WAC 296-870-60015
Button guide stabilization system	WAC 296-870-60020
Stabilization system using angulated roping and building face rollers	WAC 296-870-60025
Cable stabilization	WAC 296-870-60030
Electrical	WAC 296-870-60035
Guarding roofs and other elevated areas	WAC 296-870-60040

You must meet the requirements…	in this section:
Moving equipment	WAC 296-870-60045
Repair and maintenance	WAC 296-870-60050
Communications	WAC 296-870-60055

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60005 Design. ((~~You must:~~

~~•~~)) (1) You must make sure structural supports, tie-downs, tie-in guides, anchoring devices and any affected parts of the building included in the installation are designed by, or under the direction of, a registered professional engineer experienced in such design.

((~~•~~)) (2) You must make sure affected parts of the building are capable of sustaining all the loads imposed by the equipment.

((~~•~~)) (3) You must make sure exterior installations are capable of withstanding prevailing climatic conditions.

((~~•~~)) (4) You must make sure the affected parts of the building allow employees to use the equipment without being exposed to a hazardous condition.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60010 Stabilization systems. ((~~You must:~~

~~•~~)) (1) You must make sure the exterior of each building is provided with at least one of the following stabilization systems:

((–)) (a) Continuous tie-in guides;

((–)) (b) Intermittent stabilization system;

((–)) (c) Button guide stabilization system;

((–)) (d) System using angulated roping and building face rollers;

((–)) (e) System equivalent to a continuous tie-in guide system.

((~~Exemption:~~)) EXEMPTION:

• Tie-in guides may be eliminated for not more than seventy-five feet (22.9 m) of the uppermost elevation of the building if:

((–)) 1. Using tie-in guides there is not feasible due to building design;

AND

((–)) 2. Angulated roping is used that provides a stabilizing force of at least ten pounds (44.4 n) under all conditions of loading.

((~~You must:~~

~~•~~)) (2) You must make sure embedded tie-down anchors, fasteners, and affected structures are corrosion-resistant.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60015 Intermittent stabilization system.

Note: This system may be used with a continuous tie-in guide system on the same building as long as the requirements for each system are met.

((~~You must:~~

~~•~~)) (1) You must make sure an intermittent stabilization system:

((~~–~~)) (a) Keeps the equipment in constant contact with the building; ((~~AND~~

~~–~~)) and

(b) Prevents sudden horizontal movement of the platform.

((~~•~~)) (2) You must make sure building anchors are located vertically so that:

((~~–~~)) (a) The distance between anchors is not more than three floors or fifty feet (15.3 m), whichever is less; ((~~AND~~

~~–~~)) and

(b) Attaching the suspension ropes to the stabilizer ties will not cause the platform to move horizontally across the face of the building.

((~~•~~)) (3) You must make sure the anchors are positioned horizontally on the building face so as to be symmetrical about the platform suspension ropes.

((~~•~~)) (4) You must make sure building anchors:

((~~–~~)) (a) Are easily seen by employees; ((~~AND~~

~~–~~)) and

(b) Allow a stabilizer tie attachment for each of the platform suspension ropes at each vertical interval.

((~~•~~)) (5) You must make sure building anchors that extend beyond the face of the building have no sharp edges or points.

((~~•~~)) (6) You must make sure building anchors do not interfere with the handling or operation of cables, suspension wire ropes and lifelines that may be in contact with the building face.

((~~•~~)) (7) You must make sure the building anchors and components can sustain, without failure, at least four times the maximum anticipated load applied or transmitted to them.

((~~•~~)) (8) You must make sure the building anchors and stabilizer ties can sustain the anticipated horizontal and vertical loads from winds specified for roof storage design which may act on the platform and wire ropes if the platform is stranded on the building face.

((~~•~~)) (9) You must make sure the minimum design wind load for each anchor is three hundred pounds (1334 n) if two anchors share the wind load.

((~~•~~)) (10) You must make sure one building anchor and stabilizer tie can sustain the wind load if either:

((~~–~~)) (a) The building anchors have different spacing than the suspension wire rope; ((~~OR~~

~~–~~)) or

(b) The building requires different suspension spacings on one platform.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60020 Button guide stabilization system. ((~~You must:~~

~~•~~)) (1) You must make sure the guide buttons are:

((~~–~~)) (a) Coordinated with the platform guide tracks and other platform-mounted equipment; ((~~AND~~

~~–~~)) and

(b) Located on the building so they properly engage the guide tracks mounted on the platform.

((•)) (2) You must make sure two guide buttons engage each guide track at all times except for the initial engagement.

((•)) (3) You must make sure guide buttons that extend beyond the face of the building have no sharp edges or points.

((•)) (4) You must make sure guide buttons do not interfere with the handling or operation of cables, suspension wire ropes and lifelines that may be in contact with the building face.

((•)) (5) You must make sure guide buttons, connections, and seals are either:

((–)) (a) Able to sustain, without damage, at least the weight of the platform; ((~~OR~~
–)) or

(b) Are prevented by the guide tracks or guide track connectors from having the weight of the platform and its attachments transmitted to them.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60025 Stabilization system using angulated roping and building face rollers. ((~~You must:~~
~~•~~)) (1) You must make sure a stabilization system using angulated roping and building face rollers does all of the following:

((–)) (a) Keeps the equipment in continuous contact with the building face;

((–)) (b) Prevents sudden horizontal movement of the platform; and

((–)) (c) Maintains a stabilizing force of at least ten pounds (44.4 n) against the face of the building.

((•)) (2) You must make sure the suspended portion of the equipment is not used more than one hundred thirty feet (39.6 m) above a safe surface or ground level.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60030 Cable stabilization. ((~~You must:~~
~~•~~)) (1) You must make sure hanging lifelines and all other cables not in tension are stabilized after the initial two hundred feet (61 m) of vertical travel of the working platform and every two hundred feet (61 m) thereafter.

((•)) (2) You must make sure hanging cables which are in constant tension, other than suspended wire ropes, are stabilized after an initial six hundred feet (183 m) of vertical travel of the working platform and at intervals of six hundred feet (183 m) or less thereafter.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60035 Electrical. ((~~You must:~~

~~•~~)) (1) You must make sure, when full load is applied to the equipment power circuit, that the building electrical wiring does not allow more than a five percent voltage drop from the building service vault voltage at any power circuit outlet used by the powered platform installation.

((~~•~~)) (2) You must make sure the equipment power circuit is provided with a disconnect switch that is all of the following:

((~~–~~)) (a) Able to be locked in either the "off" or "on" position;

((~~–~~)) (b) Conveniently located with respect to the primary operating area of the equipment to allow equipment operators access to the switch; and

((~~–~~)) (c) Locked in the "on" position when the equipment is being used.

((~~•~~)) (3) You must make sure the powered platform equipment power supply is an independent electrical circuit that remains separate from all other equipment within or on the building.

((~~Exemption:~~)) EXEMPTION: The equipment power circuit may be connected to the electrical circuit supplying power to hand tools used in conjunction with the equipment.

Note: If the building is provided with an emergency power system, the equipment power circuit may also be connected to the emergency power system.

Reference: Unless otherwise specified in this section, building electrical installations have to meet the requirements of Electrical, Part L, in the General safety and health standards, chapter 296-24 WAC.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60040 Guarding roofs and other elevated areas. ((~~You must:~~

~~•~~)) (1) You must make sure employees working on a roof or other elevated working area four feet (1.2 m) or more above an adjacent safe surface are protected by a perimeter guarding system.

Reference: Requirements for the perimeter guarding system are found in Guarding floor and wall openings and holes, WAC 296-24-750, found in the General safety and health standards, chapter 296-24 WAC.

((~~You must:~~

~~•~~)) (2) You must make sure the inboard face of the perimeter guard is:

((~~–~~)) (a) Not more than six inches (152 mm) inboard of the inside face of a barrier such as the parapet wall or roof edge curb; ((~~AND~~

~~–~~)) and

(b) Not more than eighteen inches (457 mm) from the face of the building.

((~~•~~)) (3) You must make sure an elevated track system that is designed to be traversed by carriage-supported equipment and located four feet (1.2 m) or more above an adjacent safe surface is either:

((~~–~~)) (a) Provided with a walkway and guardrail system; ((~~OR~~

~~–~~)) or

(b) Has a working platform that can be lowered, as part of normal operations, to the lower safe surface.

((~~•~~)) (4) You must make sure personnel have a safe way to access and to egress from the lower safe surface.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60045 Moving equipment. ((~~You must:~~

~~•~~)) (1) You must make sure all carriages and carriage-supported equipment can be traversed to a safe area for storage and maintenance.

((~~•~~)) (2) You must make sure operational areas for trackless type equipment have structural stops, such as curbs, to prevent equipment from traveling outside its intended travel area.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60050 Repair and maintenance. ((~~You must:~~

~~•~~)) You must make sure repair or major maintenance of parts of the building that provide primary support for suspended equipment does not affect the ability of the building to meet the requirements of this chapter.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-60055 Communications. ((~~You must:~~

~~•~~)) You must make sure an effective two-way voice communication system is provided between the equipment operators and persons stationed within the building.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-700 Section contents.

((~~IMPORTANT:~~)) Summary

Important:

This section applies to permanent powered platform installations that meet either of the following:

((~~•~~)) (1) Were completed after July 23, 1990;

OR

((~~•~~)) (2) Have had major modifications done to an existing installation after July 23, 1990.

((~~**Definition:**~~

~~A **new installation** is a permanent powered platform installation that was completed, or an existing installation that has had major modifications done, after July 23, 1990.~~))

Note: If the powered platform equipment meets the requirements of the edition of American National Standard Institute/American Society of Mechanical Engineers ANSI/ASME A120.1, Safety Requirements for Powered Platforms for Building Maintenance, that was in effect when the powered platform installation was completed, it will be considered to meet the requirements of this section.

Your responsibility:

To make sure equipment used with new powered platform installations meets these requirements.

((~~WAC 296-870-70005~~
~~Design and construction.~~
~~WAC 296-870-70010~~
~~Carriages.~~
~~WAC 296-870-70015~~
~~Carriage strength and stability.~~
~~WAC 296-870-70020~~
~~Carriage traversing.~~
~~WAC 296-870-70025~~
~~Transportable outriggers.~~
~~WAC 296-870-70030~~
~~Davits.~~
~~WAC 296-870-70035~~
~~Hoisting machines.~~
~~WAC 296-870-70040~~
~~Suspended equipment strength and stability.~~
~~WAC 296-870-70045~~
~~Suspended equipment guardrail system.~~
~~WAC 296-870-70050~~
~~Suspended working platforms and manned platforms used on supported equipment.~~
~~WAC 296-870-70055~~
~~Working platform fall protection.~~
~~WAC 296-870-70060~~
~~Two- and four-point suspended working platforms.~~
~~WAC 296-870-70065~~
~~Ground-rigged working platforms.~~
~~WAC 296-870-70070~~
~~Intermittently stabilized working platforms.~~
~~WAC 296-870-70075~~
~~Button guide stabilized working platforms.~~
~~WAC 296-870-70080~~
~~Supported equipment.~~
~~WAC 296-870-70085~~
~~Suspension wire ropes and rope connections.~~
~~WAC 296-870-70090~~
~~Control circuits, power circuits and electrical protective devices.~~))

You must meet the requirements…	**in this section:**
Design and construction	WAC 296-870-70005
Carriages	WAC 296-870-70010
Carriage strength and stability	WAC 296-870-70015
Carriage traversing	WAC 296-870-70020
Transportable outriggers	WAC 296-870-70025
Davits	WAC 296-870-70030
Hoisting machines	WAC 296-870-70035
Suspended equipment strength and stability	WAC 296-870-70040
Suspended equipment guardrail system	WAC 296-870-70045

You must meet the requirements…	in this section:
Suspended working platforms and manned platforms used on supported equipment	WAC 296-870-70050
Working platform fall protection	WAC 296-870-70055
Two- and four-point suspended working platforms	WAC 296-870-70060
Ground-rigged working platforms	WAC 296-870-70065
Intermittently stabilized working platforms	WAC 296-870-70070
Button guide stabilized working platforms	WAC 296-870-70075
Supported equipment	WAC 296-870-70080
Suspension wire ropes and rope connections	WAC 296-870-70085
Control circuits, power circuits and electrical protective devices	WAC 296-870-70090

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70005 Design and construction.

((~~IMPORTANT:~~)) Important:

This section applies to equipment which is part of a powered platform installation, such as platforms, stabilizing components, carriages, outriggers, davits, hoisting machines, wire ropes and electrical components.

((~~**You must:**~~

~~•~~)) (1) You must make sure equipment installations are designed by, or under the direction of, a registered professional engineer experienced in such design.

((~~•~~)) (2) You must make sure the design uses a minimum live load of two hundred fifty pounds (113.6 kg) for each occupant of a suspended or supported platform.

((~~•~~)) (3) You must make sure equipment exposed to wind when not in service is designed to withstand loads generated by winds of at least one hundred miles per hour (44.7 m/s) at thirty feet (9.2 m) above grade.

((~~•~~)) (4) You must make sure equipment exposed to wind when in service is designed to withstand loads generated by winds of at least fifty miles per hour (22.4 m/s) for all elevations.

((~~•~~)) (5) You must make sure elevated building maintenance equipment is suspended by one of the following:

((~~–~~)) (a) A carriage;

((~~–~~)) (b) Outriggers;

((~~–~~)) (c) Davits;

((~~–~~)) (d) An equivalent method.

((~~•~~)) (6) You must make sure bolted connections are self-locking or otherwise secured to prevent loosening by vibration.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70010 Carriages. ((~~**You must:**~~
~~•~~)) (1) You must make sure each carriage work station is identified by location markings or position indicators.
((~~•~~)) (2) You must make sure means are provided to lock out the power supply for the carriage.
((~~•~~)) (3) You must make sure safe access to and egress from the carriage is provided from a safe surface.
((~~•~~)) (4) You must make sure any carriage access gate is either:
((~~–~~)) (a) Self-closing and self-latching; ((~~**OR**~~
~~–~~)) or
(b) Provided with an interlock.
((~~•~~)) (5) You must make sure any operating area on the carriage is protected by a guardrail system.

Reference: Guardrail system requirements are found in Suspended equipment guardrail system, WAC 296-870-70045.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70015 Carriage strength and stability. ((~~**You must:**~~
~~•~~)) (1) You must make sure roof carriage system stability is obtained by using gravity, attachment to a structural support, or a combination of gravity and structural attachment.
((~~•~~)) (2) You must never use a material that can flow as a counterweight to achieve stability.
((~~•~~)) (3) You must make sure the stability factor against overturning for horizontal traversing of the carriage, including wind and impact effects, is not less than two.
((~~•~~)) (4) You must make sure carriages and their anchorages can resist accidental over-tensioning of the wire ropes suspending the platform. Include in the calculation the effect of one and one-half times the stall load of the hoist.
((~~•~~)) (5) You must make sure all parts of the powered platform installation can withstand, without damage, the forces resulting from a load equal to the stall load of the hoist and one-half of the wind load.
((~~•~~)) (6) You must make sure roof carriages which develop the required stability against overturning by using tie-down devices secured to the building have an interlock which will prevent vertical platform movement unless the tie-down is engaged.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70020 Carriage traversing. ((~~You must:~~

~~•~~)) (1) You must make sure carriages used to suspend powered platforms meet all of the following:

((–)) (a) The horizontal movement of the carriage is controlled to permit it to be moved safely and to allow accurate positioning of the platform for vertical travel or storage;

((–)) (b) Structural stops and curbs are provided to prevent traversing of the carriage beyond its designed limits of travel;

((–)) (c) Powered carriages are limited to a maximum traversing speed of fifty feet per minute (0.3 m/s);

((–)) (d) Manually propelled carriages on a smooth level surface require a horizontal force of not more than one hundred pounds (444.8 n) per person to initiate a traversing movement.

((~~•~~)) (2) You must make sure traversing controls for a powered carriage meet all of the following:

((–)) (a) Controls are continuous pressure weatherproof type;

((–)) (b) Multiple controls, if provided, only permit operation from one control station at a time;

((–)) (c) An emergency stop device that interrupts power to the carriage drive motors is provided on each end of the carriage.

((~~•~~)) (3) You must make sure the operating controls of suspended equipment is connected so that traversing the carriage is not possible until:

((–)) (a) The suspended portion of the equipment is at the uppermost designed position for traversing and free of contact with the face of the building or building guides; ((~~AND~~

–)) and

(b) All protective devices and interlocks are in the proper position to allow traversing of the carriage.

((~~•~~)) (4) You must make sure unintentional traversing of the carriage is prevented by providing one of the following:

((–)) (a) An automatically applied braking or locking system, or the equivalent, for power-traversed or power-assisted carriages;

((–)) (b) A manual or automatic braking or locking system, or the equivalent, for manually propelled carriages.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70025 Transportable outriggers. ((~~You must:~~

~~•~~)) (1) You must make sure transportable outriggers are only used when all of the following are met:

((–)) (a) They are used with self-powered, ground-rigged working platforms;

((–)) (b) The point of suspension is not higher than three hundred feet (91.5 m) above a safe surface;

((–)) (c) A tie-in guide stabilization system is provided.

((~~•~~)) (2) You must make sure each outrigger is secured with a tie down to a verified anchorage on the building and meets all of the following:

((–)) (a) The outrigger is tied down during the entire time it is used;

((–)) (b) The outrigger is tied back with a rope equivalent in strength to the suspension rope;

((–)) (c) The tie-back rope is installed parallel to the center-line of the outrigger;

((–)) (d) The anchorage has a design stability factor against overturning or upsetting of the outrigger of not less than four.

((•)) (3) You must make sure access to and egress from the working platform is from and to a safe surface below the point of suspension.

((•)) (4) You must make sure each outrigger has a design stability factor to prevent rollover in the event of an accidental lateral load on the outrigger of not less than seventy percent of the rated load of the hoist.

((•)) (5) You must make sure each outrigger is designed to support an ultimate load of not less than four times the rated load of the hoist.

((•)) (6) You must make sure each outrigger is located so that the suspension wire ropes for two point suspended working platforms are parallel.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70030 Davits. ((~~You must:~~

~~•~~)) (1) You must make sure all davit installations are designed and installed to have a stability factor against overturning of not less than four.

((•)) (2) You must make sure access to and egress from the working platform of roof rigged davit systems:

((–)) (a) Is from a safe surface; ((~~AND~~

~~–~~)) and

(b) Does not require persons to climb over a building parapet or guardrail.

((•)) (3) You must make sure the working platform of a roof rigged davit system has wheels, casters, or a carriage for traversing horizontally.

((•)) (4) You must make sure ground rigged davit systems meet all of the following:

((–)) (a) The point of suspension is not higher than three hundred feet (91.5 m) above a safe surface;

((–)) (b) A tie-in guide stabilization system is provided;

((–)) (c) Access to and egress from the working platform is from a safe surface below the point of suspension.

((•)) (5) You must make sure a rotating davit of a ground rigged davit system requires a horizontal force of forty pounds (177.9 n) or less per person to initiate a rotating movement.

((•)) (6) You must make sure a transportable davit or part of a davit weighing more than eighty pounds (36 kg) has means provided for its transport that keep the center of gravity of the davit at or below thirty-six inches (914 mm) above the safe surface during transport.

((~~•~~)) (7) You must make sure a transportable davit is provided with a pivoting socket or base that allows the davit to be removed or inserted:

((~~–~~)) (a) At a position of not more than thirty-five degrees above the horizontal; ((~~AND~~

~~–~~)) and

(b) With the complete davit inboard of the building face.

((~~•~~)) (8) You must make sure means are provided to lock a transportable davit to its socket or base before it is used to suspend the platform.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70035 Hoisting machines. ((~~You must:~~

~~•~~)) (1) You must make sure suspended or supported equipment is raised or lowered only by a hoisting machine.

((~~•~~)) (2) You must make sure each hoisting machine is all of the following:

((~~–~~)) (a) Powered only by air, electric, or hydraulic sources;

((~~–~~)) (b) Capable of raising or lowering one hundred twenty-five percent of the rated load of the hoist;

((~~–~~)) (c) Able to arrest any overspeed descent of the load.

((~~•~~)) (3) You must make sure the stall load of any hoist motor is not more than three times its rated load.

((~~•~~)) (4) You must make sure any component of a hoisting machine that needs to be lubricated for protection or proper functioning has means provided to apply the lubricant.

((~~•~~)) (5) You must make sure winding drums, traction drums and sheaves, and directional sheaves used in conjunction with hoisting machines are compatible with, and sized for, the wire rope used.

((~~•~~)) (6) You must make sure each winding drum:

((~~–~~)) (a) Has a positive means to attach the wire rope to the drum; ((~~AND~~

~~–~~)) and

(b) The attachment can develop at least four times the rated load of the hoist.

((~~•~~)) (7) You must make sure each hoisting machine is provided with a primary brake that is all of the following:

((~~–~~)) (a) Capable of stopping and holding not less than one hundred twenty-five percent of the lifting capacity of the hoist;

((~~–~~)) (b) Directly connected to the drive train of the hoisting machine without using belts, chains, clutches, or set screw type devices;

((~~–~~)) (c) Automatically set when power to the prime mover is interrupted.

((~~•~~)) (8) You must make sure each hoisting machine is provided with at least one independent secondary brake that is all of the following:

((~~–~~)) (a) Capable of stopping and holding not less than one hundred twenty-five percent of the lifting capacity of the hoist;

((~~–~~)) (b) An automatic emergency type of brake that, if, actuated during each stopping cycle, does not engage before the hoist is stopped by the primary brake;

((–)) (c) Able to stop and hold the platform within a vertical distance of twenty-four inches (609.6 mm) after the brake is actuated.

Reference: Moving parts of a hoisting machine need to be enclosed or guarded as required by another chapter, Machine safety, chapter 296-806 WAC.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70040 Suspended equipment strength and stability. ((~~You must:~~

~~•~~)) (1) You must make sure each suspended unit component is:

((–)) (a) Capable of supporting, without failure, at least four times the maximum intended live load applied or transmitted to it; ((~~AND~~

–)) and

(b) Constructed of materials that will withstand the anticipated weather conditions.

((~~Exemption:~~)) EXEMPTION: The strength requirement does not apply to suspension ropes and guardrail systems.

((~~You must:~~

~~•~~)) (2) You must make sure each suspended unit has a load rating plate that:

((–)) (a) Is conspicuously located; ((~~AND~~

–)) and

(b) States the suspended unit weight and rated load.

((~~•~~)) (3) You must make sure suspended units that do not have the suspension points at the end of the unit:

((–)) (a) Are continuously stable for any position or use of the live load; ((~~AND~~

–)) and

(b) Maintain at least a one and one-half to one stability factor against unit upset.

((~~•~~)) (4) You must make sure each suspended unit has guide rollers, guide shoes, or building face rollers that compensate for variations in building dimensions and for minor horizontal out-of-level variations of the suspended unit.

((~~•~~)) (5) You must make sure the working platform of each suspended unit is secured to the building facade by at least one of the following methods:

((–)) (a) Continuous engagement to building anchors;

((–)) (b) Intermittent engagement to building anchors;

((–)) (c) Button guide engagement;

((–)) (d) Angulated roping and building face rollers;

((–)) (e) A system equivalent to continuous engagement to building anchors.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70045 Suspended equipment guardrail system. ((~~You must:~~

~~•~~)) (1) You must make sure each working platform of a suspended unit has a guardrail system on all sides that consists of a top guardrail, midrail, and a toeboard.

((~~•~~)) (2) You must make sure the top guardrail is:

((~~–~~)) (a) At least thirty-eight inches (950 mm) high; ((~~AND~~

~~–~~)) and

(b) Able to withstand at least a two hundred pound (890 n) force in any downward or outward direction.

((~~•~~)) (3) You must make sure the midrail is able to withstand at least a seventy-five pound (333 n) force in any downward or outward direction.

((~~•~~)) (4) You must make sure material encloses the area:

((~~–~~)) (a) Between the top guardrail and the toeboard on the ends and outboard side of the platform; ((~~AND~~

~~–~~)) and

(b) Between the midrail and the toeboard on the inboard side of the platform.

((~~•~~)) (5) You must make sure the material surrounding the platform is:

((~~–~~)) (a) Able to withstand a load of one hundred pounds (45.4 kg) applied horizontally over any area of one square foot (.09 m^2); ((~~AND~~

~~–~~)) and

(b) Has openings small enough to not allow passage of life lines and potential falling objects.

((~~•~~)) (6) You must make sure toeboards are all of the following:

((~~–~~)) (a) Capable of withstanding, without failure, a force of at least fifty pounds (222 n) applied at any point in a downward or horizontal direction;

((~~–~~)) (b) At least four inches (9 cm) from their top edge to the level of the platform floor;

((~~–~~)) (c) Securely fastened in place at the outermost edge of the platform;

((~~–~~)) (d) Installed so there is not more than a one-half inch (1.3 cm) gap between the bottom of the toeboard and the platform floor;

((~~–~~)) (e) Solid or with openings not more than one inch (2.5 cm) in the greatest dimension.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70050 Suspended working platforms and manned platforms used on supported equipment. ((~~You must:~~

~~•~~)) (1) You must make sure the width of the working platform is:

((~~–~~)) (a) At least twenty-four inches (610 mm); ((~~AND~~

~~–~~)) and

(b) Allows a minimum of a twelve-inch (305 mm) wide passage at or past any obstruction on the platform.

((~~•~~)) (2) You must make sure the platform has slip-resistant flooring.

((~~•~~)) (3) You must make sure any opening in the platform is either:

((–)) (a) Small enough to prevent passage of life lines, cables, and other potential falling objects; ((~~OR~~
–)) or
(b) Protected by material under the opening which prevents the passage of life lines, cables, and potential falling objects.
((~~•~~)) (4) You must make sure means are provided to store any cable suspended from above the platform to keep it from accumulating on the floor of the platform.
((~~•~~)) (5) You must make sure means are provided to secure all tools, water tanks, and other accessories to keep them from moving or accumulating on the floor of the platform.
((~~•~~)) (6) You must make sure flammable liquids are not carried on the working platform.
((~~•~~)) (7) You must make sure a type B-C portable fire extinguisher is provided and securely attached on all working platforms.
((~~•~~)) (8) You must make sure operating controls for vertical travel of the platform are:
((–)) (a) Continuous-pressure type; ((~~AND~~
–)) and
(b) Located on the platform.
((~~•~~)) (9) You must make sure the maximum rated speed of the platform is limited to:
((–)) (a) Fifty feet per minute (0.3 ms) for single speed hoists; ((~~AND~~
–)) and
(b) Seventy-five feet per minute (0.4 ms) for multispeed hoists.
((~~•~~)) (10) You must make sure access to and egress from a working platform, except for those that land directly on a safe surface, is provided by stairs, ladders, platforms or runways.
((~~•~~)) (11) You must make sure access gates are self-closing and self-latching.

Reference: Requirements for stairs, ladders, platforms and runways are found in other chapters:
((–)) 1. Working Surfaces, Guarding Floors and Wall Openings, Ladders, Part J-1 in the General safety and health standards, chapter 296-24 WAC.
((–)) 2. Scaffolds, chapter 296-874 WAC.
((–)) 3. Ladders, portable, chapter 296-876 WAC.

((~~You must:~~
~~•~~)) (12) You must make sure a suspended platform's suspension system restricts the platform inboard to outboard roll around its longitudinal axis to not more than fifteen degrees from the horizontal when moving the live load from the inboard to the outboard side of the platform.

Note: The roll limitation does not apply to supported equipment.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70055 Working platform fall protection. ((~~You must:~~
~~•~~)) (1) You must make sure a secondary wire rope suspension system which prevents the platform from falling if the primary means of support fails is provided on:
((–)) (a) Working platforms that contain overhead structures which restrict emergency egress; ((~~AND~~
–)) and
(b) Single-point suspended working platforms.

((~~•~~)) (2) You must make sure each person on the working platform is provided with a fall arrest system that:

((~~–~~)) (a) Meets the requirements of Appendix C—Personal fall arrest system, WAC 296-24-88050, found in the General safety and health standards, chapter 296-24 WAC; ((~~AND~~

~~–~~)) and

(b) Uses a horizontal lifeline or direct connection anchorage on platforms that contain overhead structures which restrict emergency egress.

((~~•~~)) (3) You must make sure platforms suspended by two or more wire ropes are provided with vertical lifelines if failure of one wire rope or suspension attachment will cause the platform to upset.

Note: Vertical lifelines are not required for the fall arrest system if a secondary wire rope suspension is used and each person is attached to a horizontal lifeline anchored to the platform.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70060 Two- and four-point suspended working platforms.

((~~IMPORTANT:~~)) Important:

In addition to these requirements, you also need to meet the requirements of both of the following sections in this chapter:

((~~–~~)) 1. Suspended working platforms and manned platforms used on supported equipment, WAC 296-870-70050;

((~~–~~)) 2. Working platform fall protection, WAC 296-870-70055.

((~~**You must:**~~

~~•~~)) (1) You must make sure an emergency electric operating device is provided on roof powered platforms that:

((~~–~~)) (a) Can be used if either the normal operating device located on the platform or the cable connected to the platform fails; ((~~AND~~

~~–~~)) and

(b) Is mounted in a secured compartment near the hoisting machine.

((~~•~~)) (2) You must make sure the secured compartment containing the emergency electric operating device:

((~~–~~)) (a) Is labeled with instructions for using the emergency electric operating device; ((~~AND~~

~~–~~)) and

(b) Has means for opening the compartment mounted in:

((~~■~~)) (i) A break-glass receptacle near the emergency electric operating device; ((~~OR~~

~~■~~)) or

(ii) An equivalent secure and accessible location.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70065 Ground-rigged working platforms.

((~~IMPORTANT:~~)) Important:

In addition to these requirements, you also need to meet the requirements of both of the following sections in this chapter:

((–)) 1. Suspended working platforms and manned platforms used on supported equipment, WAC 296-870-70050;

((–)) 2. Working platform fall protection, WAC 296-870-70055.

((~~You must:~~

~~•~~)) You must make sure, after each day's use, ground-rigged working platforms are:

((–)) (1) Disconnected from the power supply within the building; ((~~AND~~

–)) and

(2) Disengaged from its suspension points or secured and stored at grade.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70070 Intermittently stabilized working platforms.

((~~IMPORTANT:~~)) Important:

In addition to these requirements, you also need to meet the requirements of both of the following sections in this chapter:

((–)) 1. Suspended working platforms and manned platforms used on supported equipment, WAC 296-870-70050;

((–)) 2. Working platform fall protection, WAC 296-870-70055.

((~~You must:~~

~~•~~)) (1) You must make sure each stabilizer tie is equipped with a "quick connect - quick disconnect" device for attachment to the building anchor that:

((–)) (a) Cannot be accidentally disengaged; ((~~AND~~

–)) and

(b) Is resistant to adverse environmental conditions.

((~~•~~)) (2) You must make sure the platform has a stopping device that will interrupt the hoist power supply in the event the platform contacts a stabilizer tie during its ascent.

((~~•~~)) (3) You must make sure intermittently stabilized platforms use stabilizer ties that:

((–)) (a) Allow the specific attachment length needed to obtain the predetermined angulation of the suspended wire rope; ((~~AND~~

–)) and

(b) Maintain the specific attachment length at all building anchor locations.

((~~•~~)) (4) You must make sure stabilizer ties can be attached and removed without horizontal movement of the platform.

((~~•~~)) (5) You must make sure platform-mounted equipment and suspension wire ropes:

((–)) (a) Will not be damaged by the loads from the stabilizer tie or its building anchor; ((~~AND~~

–)) and

(b) Are able to withstand a load that is at least twice the ultimate strength of the stabilizer tie.

((~~•~~)) (6) You must make sure building face rollers are placed so they do not contact exterior anchors used on the building face.

((~~•~~)) (7) You must make sure the platform maintains continuous contact with the building face while ascending and descending.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70075 Button guide stabilized working platforms.

((~~IMPORTANT:~~)) Important:

In addition to these requirements, you also need to meet the requirements of both of the following sections in this chapter:

((–)) 1. Suspended working platforms and manned platforms used on supported equipment, WAC 296-870-70050;

((–)) 2. Working platform fall protection, WAC 296-870-70055.

((~~You must:~~

~~•~~)) (1) You must make sure two guide tracks are mounted on the platform and provide continuous contact with the building face.

((~~•~~)) (2) Make sure each guide track on the platform meets all of the following:

((–)) (a) Engages a minimum of two guide buttons during any vertical travel of the platform after the initial button engagement;

((–)) (b) Is sufficiently maneuverable by platform occupants to permit easy engagement of the guide buttons;

((–)) (c) Can be easily moved into and out of its storage position on the platform.

((~~•~~)) (3) You must make sure each guide track on the platform of a roof-rigged system has a storage position on the platform.

((~~•~~)) (4) You must make sure load carrying components of the button guide stabilization system which transmit the load into the platform are either:

((–)) (a) Able to support the weight of the platform; ((~~OR~~

–)) or

(b) Are prevented by the guide track connectors or platform attachments from having the weight of the platform transmitted to the platform attachments.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70080 Supported equipment.

((~~IMPORTANT:~~)) Important:

Manned platforms used on supported equipment need to meet all the requirements, except the inboard to outboard roll limitation, of suspended working platforms and manned platforms used on supported equipment, WAC 296-870-60050.

((~~You must:~~

~~•~~)) (1) You must make sure supported equipment uses means other than friction to maintain a vertical position relative to the face of the building.

((~~•~~)) (2) You must make sure cog wheels or equivalent means are incorporated to provide climbing traction between the supported equipment and the building guides.

((~~•~~)) (3) You must make sure additional guide wheels or shoes are incorporated as necessary to keep the drive wheels continuously in positive engagement with the building guides.

((~~•~~)) (4) You must make sure that, at the point where the drive wheels enter the building guides, proper alignment is maintained using launch guide mullions that are:

((~~–~~)) (a) Indexed to the building guides; ((~~AND~~

~~–~~)) and

(b) Retained in alignment with the building guides.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70085 Suspension wire ropes and rope connections. ((~~**You must:**~~

~~•~~)) (1) You must make sure each specific installation uses suspension wire ropes and connections or combination cable and connections meeting the specifications recommended by the hoisting machine manufacturer.

((~~•~~)) (2) You must make sure connections are capable of developing at least eighty percent of the rated breaking strength of the wire rope.

((~~•~~)) (3) You must make sure each suspension rope has a design factor of at least ten.

((~~**Definition:**~~

~~The design factor is the ratio of the rated strength of the suspension wire rope to the rated working load. It is calculated using the following formula:~~

~~F = (S x N)/W~~

~~Where:~~

~~F = Design factor~~
~~S = Manufacturer's rated strength of one suspension rope~~
~~N = Number of suspension ropes under load~~
~~W = Rated working load on all ropes at any point of travel.~~

~~**Example:**~~

~~A working platform is suspended by 4 wire ropes (N), each having a rated strength (S) of three thousand pounds. The rated working load of the platform (W) is one thousand pounds.~~

~~Calculate the design factor (F) as follows:~~

~~F = (S x N)/W = (3000 x 4)/1000 = 12000/1000 = 12~~

~~**You must:**~~

~~•~~)) (4) You must make sure the minimum grade of suspension wire rope used is improved plow steel or equivalent.

((~~•~~)) (5) You must make sure suspension wire ropes are sized to conform with the required design factor, but never less than 5/16 inch (7.94 mm) in diameter.

((~~•~~)) (6) You must make sure there is not more than one reverse bend in six wire rope lays.

((~~•~~)) (7) You must make sure a suspension wire rope that is to be used at a specific location, and will remain at that location, has a corrosion-resistant tag that:

((~~–~~)) (a) Is securely attached to one of the wire rope fastenings; ((~~AND~~

–)) and
(b) Bears the following wire rope information:
((■)) (i) Diameter in inches or millimeters (mm);
((■)) (ii) Construction classification;
((■)) (iii) Whether nonpreformed or preformed;
((■)) (iv) Grade of material;
((■)) (v) Manufacturer's rated strength;
((■)) (vi) Manufacturer's name;
((■)) (vii) Month and year the ropes were installed;
((■)) (viii) Name of the person or company which installed the ropes.
((•)) (8) You must make sure a new tag is installed at each wire rope renewal.
((•)) (9) You must make sure when resocketing the wire rope either:
((–)) (a) The original tag is stamped with the date of resocketing; ((~~OR~~
–)) or
(b) The original tag Is retained and a supplemental tag added that shows:
((■)) (i) The date of resocketing; ((~~AND~~
■)) and
(ii) The name of the person or company that resocketed the rope.
((•)) (10) You must make sure winding drum type hoists contain at least three wraps of the suspension wire rope on the drum when the suspended unit has reached the lowest possible point of its vertical travel.
((•)) (11) You must make sure traction drum and sheave type hoists use wire rope long enough to reach the lowest possible point of vertical travel of the suspended unit, and an additional length of the wire rope of at least four feet (1.2 m).
((•)) (12) You must make sure suspension wire rope is never lengthened or repaired.
((•)) (13) You must make sure babbitted fastenings are never used with suspension wire rope.

AMENDATORY SECTION (Amending WSR 06-19-075, filed 9/19/06, effective 1/1/07)

WAC 296-870-70090 Control circuits, power circuits and electrical protective devices.

Reference: Unless otherwise specified in this chapter, make sure electrical wiring and equipment meet the requirements of Electrical, Part L in the General safety and health standards, chapter 296-24 WAC.

((~~**You must:**~~
•)) (1) You must make sure electrical runway conductor systems are:
((–)) (a) Designed for use in exterior locations; ((~~AND~~
–)) and
(b) Located so they do not come in contact with accumulated snow or water.
((•)) (2) You must make sure cables are protected against damage resulting from over-tensioning or other causes.

((•)) (3) You must make sure the control system requires the operator to follow predetermined procedures to operate suspended or supported equipment.

((•)) (4) You must make sure the control system has:

((–)) (a) Devices included to protect the equipment against electrical overloads, three-phase reversal and phase failure; ((~~AND~~ –)) and

(b) A separate method that is independent of the direction control circuit to break the power circuit in case of an emergency or malfunction.

((•)) (5) You must make sure installations where the carriage does not have a stability factor of at least four against overturning have electrical contacts provided and connected so that the operating devices for suspended or supported equipment will only function when the carriage is located and mechanically retained at an established operating point.

((•)) (6) You must make sure the hoisting or suspension system has overload protection to prevent the equipment from operating in the "up" direction with a load greater than one hundred twenty-five percent of the rated load of the platform.

((•)) (7) You must make sure an automatic detector is provided for each suspension point that will do both of the following if a suspension wire rope becomes slack:

((–)) (a) Interrupt power to all hoisting motors for travel in the "down" direction; ((~~AND~~ –)) and

(b) Apply the primary brakes.

Note: A continuous-pressure rigging-bypass switch designed for use during rigging is permitted. It can only be used during rigging.

((~~**You must:**~~ •)) (8) You must make sure upper and lower directional switches are provided that are designed to prevent the travel of suspended units beyond safe upward and downward levels.

((•)) (9) You must make sure remote controlled, roof-powered manned platforms have an emergency stop switch located adjacent to each control station on the platform.

((•)) (10) You must make sure cables which are in constant tension have overload devices which will prevent the tension in the cable from interfering with:

((–)) (a) The device that limits the hoist from lifting a load greater than one hundred twenty-five percent of the rated load of the platform; ((~~AND~~ –)) and

(b) The platform roll limiting device required by WAC 296-870-70050, Suspended working platforms and manned platforms used on supported equipment.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 296-870-800 Definitions.

NEW SECTION

WAC 296-874-099 Definitions.

Adjustable suspension scaffold. A suspended scaffold equipped with one or more hoists that can be operated by employees on the scaffold.

Bearer. A horizontal scaffold member (which may be supported by ledgers or runners) upon which the scaffold platform rests and which joins scaffold uprights, posts, poles, and similar members.

Boatswain's chair. A single-point adjustable suspended scaffold consisting of a seat or sling designed to support one employee in a sitting position.

Brace. A rigid connection that holds one scaffold member in a fixed position with respect to another member, or to a building or structure.

Bricklayers' square scaffold. A supported scaffold composed of framed squares which support a platform.

Carpenters' bracket scaffold. A supported scaffold consisting of a platform supported by brackets attached to building or structural walls.

Catenary scaffold. A suspended scaffold consisting of a platform supported by two essentially horizontal and parallel ropes attached to structural members of a building or other structure. Additional support may be provided by vertical pickups.

Cleat. A structural block used at the end of a platform to prevent the platform from slipping off its supports. Cleats are also used to provide footing on sloped surfaces such as access ramps.

Competent person. Someone who:

(a) Is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees; and

(b) Has the authority to take prompt corrective measures to eliminate them.

Coupler. A device for locking together the tubes of a tube and coupler scaffold.

Double-pole (independent pole) scaffold. A supported scaffold consisting of one or more platforms resting on cross beams (bearers) supported by ledgers and a double row of uprights independent of support (except ties, guys, braces) from any structure.

Equivalent. Alternative design, material, or method to protect against a hazard. You have to demonstrate that it provides an equal or greater degree of safety for employees than the method, material, or design specified in the rule.

Exposed power lines. Electrical power lines which are accessible to and may be contacted by employees. Such lines do not include extension cords or power tool cords.

Eye or **eye splice.** A loop at the end of a wire rope.

Fabricated frame scaffold (tubular welded frame scaffold). A scaffold consisting of platforms supported on fabricated frames with integral posts, horizontal bearers, and intermediate members.

Failure. Load refusal, breaking, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

Float (ship) scaffold. A suspended scaffold consisting of a braced platform resting on two parallel bearers and hung from overhead supports by ropes of fixed length.

Form scaffold. A supported scaffold consisting of a platform supported by brackets attached to formwork.

Guardrail system. A vertical barrier consisting of, but not limited to, toprails, midrails, and posts, erected to prevent employees from falling off a scaffold platform or walkway.

Handrails (ladder stands). A rail connected to a ladder stand running parallel to the slope and/or top step.

Hoist. A manual or power-operated mechanical device to raise or lower a suspended scaffold.

Horse scaffold. A supported scaffold consisting of a platform supported by construction horses (saw horses). Horse scaffolds constructed of metal are sometimes known as trestle scaffolds.

Independent pole scaffold. (See double-pole scaffold.)

Interior hung scaffold. A suspended scaffold consisting of a platform suspended from the ceiling or roof structure by fixed length supports.

Ladder jack scaffold. A supported scaffold consisting of a platform resting on brackets attached to ladders.

Ladder stand. A mobile, fixed-size, self-supporting ladder consisting of a wide flat tread ladder in the form of stairs.

Landing. A platform at the end of a flight of stairs.

Large area scaffold. A pole scaffold, tube and coupler scaffold, system scaffold, or fabricated frame scaffold erected over substantially the entire work area. For example: A scaffold erected over the entire floor area of a room.

Lean-to scaffold. A supported scaffold which is kept erect by tilting it toward and resting it against a building or structure.

Ledger. (See runner.)

Lifeline. A component consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline), or that connects to anchorages at both ends to stretch horizontally (horizontal lifeline). It serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Lower levels. Areas below the level where the employee is located and to which an employee can fall. Such areas include, but are not limited to, ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, and equipment.

Masons' adjustable supported scaffold. (See self-contained adjustable scaffold.)

Masons' multipoint adjustable suspension scaffold. A continuous run suspended scaffold designed and used for masonry operations.

Maximum intended load. The total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

Midrail. A rail, approximately midway between the toprail of a guardrail system and the platform, and secured to the uprights erected along the exposed sides and ends of a platform.

Mobile scaffold. Supported scaffold mounted on casters or wheels.

Multilevel suspended scaffold. A two-point or multipoint adjustable suspension scaffold with a series of platforms at various levels resting on common stirrups.

Multipoint adjustable suspension scaffold. A suspended scaffold consisting of a platform(s) which is suspended by more than two ropes from overhead supports and equipped with means to raise and lower the platform to desired work levels.

Needle beam scaffold. A suspended scaffold which has a platform supported by two bearers (needle beams) suspended from overhead supports.

Outrigger. A structural member of a supported scaffold which increases the base width of a scaffold. This provides support for and increases the stability of the scaffold.

Outrigger beam (suspended and supported). The structural member of a suspended scaffold or outrigger scaffold which provides support for the scaffold by extending the scaffold point of attachment to a point out and away from the structure or building.

Outrigger scaffold. A supported scaffold consisting of a platform resting on outrigger beams which projects beyond the wall or face of the building or structure. The inboard ends of the outrigger beams are secured inside the building or structure.

Overhand bricklaying. The process of laying bricks and masonry so that the surface of the wall is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. It includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.

Personal fall arrest system. A system used to arrest an employee's fall. It consists of an anchorage, connectors, and body harness and may also include a lanyard, deceleration device, lifeline, or combinations of these.

Platform. A work surface used in scaffolds, elevated above lower levels. Platforms can be constructed using individual wood planks, fabricated planks, fabricated decks, and fabricated platforms.

Pole scaffold. (See single-pole scaffold and double (independent) pole scaffold.)

Pump jack scaffold. A supported scaffold consisting of a platform supported by vertical poles and movable support brackets.

Qualified person. A person who has successfully demonstrated the ability to solve problems relating to the subject matter, work, or project, either by:

(a) Possession of a recognized degree, certificate, or professional standing; or

(b) Extensive knowledge, training and experience.

Rated load. The manufacturer's specified maximum load to be lifted by a hoist or to be applied to a scaffold or scaffold component.

Repair bracket scaffold. A supported scaffold consisting of a platform supported by brackets. The brackets are secured in place around the circumference or perimeter of a chimney, stack, tank, or other supporting structure by one or more wire ropes placed around the supporting structure.

Roof bracket scaffold. A supported scaffold used on a sloped roof. It consists of a platform resting on angular-shaped supports so that the scaffold platform is level.

Runner (ledger). The lengthwise horizontal spacing or bracing member which may support the bearers.

Scaffold. A temporary elevated platform, including its supporting structure and anchorage points, used for supporting employees or materials.

Self-contained adjustable scaffold. A combination supported and suspended scaffold consisting of an adjustable platform mounted on an independent supporting frame, not a part of the object being worked on, which is equipped with a means to raise and lower the platform. Such systems include rolling roof rigs, rolling outrigger systems, and some masons' adjustable supported scaffolds.

Shore scaffold. A supported scaffold which is placed against a building or structure and held in place with props.

Single-point adjustable suspension scaffold. A suspended scaffold consisting of a platform suspended by one rope from an overhead support and equipped with means to permit the movement of the platform to desired work levels.

Single-pole scaffold a supported scaffold. Consisting of platforms resting on bearers, the outside ends of which are supported on runners secured to a single row of posts or uprights, and the inner ends of which are supported on or in a structure or building wall.

Stair tower (scaffold stairway/tower). A tower comprised of scaffold components which contains internal stairway units and rest platforms. These towers are used to provide access to scaffold platforms and other elevated points such as floors and roofs.

Stall load. The load at which the prime mover of a power-operated hoist stalls or the power to the prime mover is automatically disconnected.

Step, platform, and trestle ladder scaffold. A platform resting directly on the rungs of a step, platform, or trestle ladder.

Stilts. A pair of poles or similar supports with raised footrests, used to permit walking above the ground or working surface.

Stonesetters' multipoint adjustable suspension scaffold. A continuous run suspended scaffold designed and used for stonesetters' operations.

Supported scaffold. One or more platforms supported by rigid means such as outrigger beams, brackets, poles, legs, uprights, posts, or frames.

Suspended scaffold. One or more platforms suspended from an overhead structure by ropes or other nonrigid means.

System scaffold. A scaffold consisting of posts with fixed connection points that accept runners, bearers, and diagonals that can be interconnected at predetermined levels.

Toeboard (scaffold). A barrier erected along the exposed sides and ends of a scaffold platform at platform level to prevent material, tools, and other loose objects from falling from the platform.

Top plate bracket scaffold. A scaffold supported by brackets that hook over or are attached to the top of a wall. This type of scaffold is similar to carpenters' bracket scaffolds and form scaffolds.

Tube and coupler scaffold. A scaffold consisting of platforms supported by tubing, erected with coupling devices connecting uprights, braces, bearers, and runners.

Tubular welded frame scaffold. (See fabricated frame scaffold.)

Tubular welded sectional folding scaffold. A sectional, folding metal scaffold either of ladder frame or inside stairway design. It is substantially built of prefabricated welded sections, which consist of end frames, platform frame, inside inclined stairway frame and braces, or hinged connected diagonal and horizontal braces. It can be folded into a flat package when the scaffold is not in use.

Two-point suspension scaffold (swing stage). A suspended scaffold consisting of a platform supported by hangers (stirrups), suspended by two ropes from overhead supports, and equipped with a means to permit the raising and lowering of the platform to desired work levels.

Unstable objects. Items whose strength, configuration, or lack of stability may allow them to become dislocated and shift and therefore may not properly support the loads imposed on them. Unstable objects do not constitute a safe base support for scaffolds, platforms, or em-

ployees. Examples include, but are not limited to, barrels, boxes, loose brick, and concrete blocks.

Vertical pickup. A rope used to support the horizontal rope in a catenary scaffold.

Walkway (scaffold). Part of a scaffold used only for access and not as a working level.

Window jack scaffold. A platform resting on a bracket or jack that projects through a window opening.

Work level. The elevated platform, used for supporting workers and their materials.

AMENDATORY SECTION (Amending WSR 07-17-026, filed 8/7/07, effective 10/6/07)

WAC 296-874-100 Scope. This chapter applies to suspended and supported scaffolds, including their supporting structure and anchorage points.

((~~Exemption:~~)) EXEMPTION: This chapter does not apply to:

((•)) 1. Manually propelled elevating work platforms;
((•)) 2. Self-propelled elevating work platforms;
((•)) 3. Boom-supported elevating work platforms;
((•)) 4. Aerial lifts;
((•)) 5. Crane or derrick suspended personnel platforms;
((•)) 6. Personnel platforms supported by powered industrial trucks (PITs).

Reference: Additional requirements for the following types of platforms are found in the general safety and health standards, chapter 296-24 WAC. Go to the following sections:

((•)) 1. For elevating work platforms and aerial lifts, go to elevating work platforms, WAC 296-24-875;
((•)) 2. For crane or derrick suspended personnel platforms, go to WAC 296-24-23533;
((•)) 3. For personnel platforms supported by powered industrial trucks (PITs), go to chapter 296-863 WAC.

((~~**Definition:**~~

~~A **scaffold** is a temporary elevated platform, including its supporting structure and anchorage points, used for supporting employees or materials.~~

~~A **suspended scaffold** is one or more platforms suspended from an overhead structure by ropes or other nonrigid means.~~

~~A **supported scaffold** is one or more platforms supported by rigid means such as outrigger beams, brackets, poles, legs, uprights, posts, or frames.~~))

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-200 General requirements for scaffolds. Section contents:

Your responsibility:

To make sure all scaffolds meet these requirements.

((~~Make sure scaffolds are properly designed and constructed~~

~~WAC 296-874-20002.~~

~~Make sure scaffolds are erected, moved, altered, or dismantled by appropriate persons~~

~~WAC 296-874-20004.~~

~~Maintain structural integrity when intermixing scaffold components~~

~~WAC 296-874-20006.~~
~~Make sure platforms are properly planked or decked~~
~~WAC 296-874-20008.~~
~~Make sure platforms meet minimum width requirements~~
~~WAC 296-874-20010.~~
~~Meet these requirements when shorter platforms are used to create a longer platform~~
~~WAC 296-874-20012.~~
~~Lay platform planks properly when the platform changes direction~~
~~WAC 296-874-20014.~~
~~Stabilize the ends of platforms~~
~~WAC 296-874-20016.~~
~~Keep platform sag within acceptable limits~~
~~WAC 296-874-20018.~~
~~Provide safe access to scaffolds~~
~~WAC 296-874-20020.~~
~~Make sure portable, hook-on, and attachable ladders meet these requirements~~
~~WAC 296-874-20022.~~
~~Make sure stairway-type ladders meet these requirements~~
~~WAC 296-874-20024.~~
~~Make sure stair towers meet these requirements~~
~~WAC 296-874-20026.~~
~~Make sure stair rails and handrails meet these requirements~~
~~WAC 296-874-20028.~~
~~Make sure ramps and walkways used to access scaffolds meet these requirements~~
~~WAC 296-874-20030.~~
~~Make sure surfaces used to access scaffolds are close enough to use safely~~
~~WAC 296-874-20032.~~
~~Inspect scaffolds and scaffold components~~
~~WAC 296-874-20034.~~
~~Make sure damaged or weakened scaffolds meet minimum strength requirements~~
~~WAC 296-874-20036.~~
~~Make sure scaffolds are properly loaded~~
~~WAC 296-874-20038.~~
~~Protect employees when moving scaffolds~~
~~WAC 296-874-20040.~~
~~Increase employee working level height on scaffolds safely~~
~~WAC 296-874-20042.~~
~~Control loads being hoisted near scaffolds~~
~~WAC 296-874-20044.~~
~~Protect employees from energized power lines~~
~~WAC 296-874-20046.~~
~~Protect employees from weather hazards~~
~~WAC 296-874-20048.~~
~~Protect employees from slipping and tripping hazards~~
~~WAC 296-874-20050.~~
~~Provide fall protection for employees on scaffolds~~
~~WAC 296-874-20052.~~
~~Provide fall protection if the scaffold is too far from the work face~~
~~WAC 296-874-20054.~~
~~Provide specific fall protection for specific types of scaffolds~~
~~WAC 296-874-20056.~~

~~Make sure personal fall arrest systems meet these requirements~~
~~WAC 296-874-20058.~~
~~Make sure vertical lifelines used with personal fall arrest systems meet these requirements~~
~~WAC 296-874-20060.~~
~~Make sure horizontal lifelines used with personal fall arrest systems meet these requirements~~
~~WAC 296-874-20062.~~
~~Make sure guardrail systems meet these requirements~~
~~WAC 296-874-20064.~~
~~Provide falling object protection~~
~~WAC 296-874-20066.~~
~~Provide additional support lines on suspended scaffolds using a canopy for falling object protection~~
~~WAC 296-874-20068.~~
~~Make sure toeboards meet these requirements~~
~~WAC 296-874-20070.~~
~~Train employees who work on scaffolds~~
~~WAC 296-874-20072.~~
~~Train employees who erect, dismantle, operate or maintain scaffolds~~
~~WAC 296-874-20074.~~
~~Retrain employees when necessary~~
~~WAC 296-874-20076.~~))

You must meet the requirements…	**in this section:**
Make sure scaffolds are properly designed and constructed	WAC 296-874-20002
Make sure scaffolds are erected, moved, altered, or dismantled by appropriate persons	WAC 296-874-20004
Maintain structural integrity when intermixing scaffold components	WAC 296-874-20006
Make sure platforms are properly planked or decked	WAC 296-874-20008
Make sure platforms meet minimum width requirements	WAC 296-874-20010
Meet these requirements when using shorter platforms to create a longer platform	WAC 296-874-20012
Lay platform planks properly when the platform changes direction	WAC 296-874-20014
Stabilize the ends of platforms	WAC 296-874-20016
Keep platform sag within acceptable limits	WAC 296-874-20018
Provide safe access to scaffolds	WAC 296-874-20020

You must meet the requirements…	in this section:
Make sure portable, hook-on, and attachable ladders meet these requirements	WAC 296-874-20022
Make sure stairway-type ladders meet these requirements	WAC 296-874-20024
Make sure stair towers meet these requirements	WAC 296-874-20026
Make sure stair rails and handrails meet these requirements	WAC 296-874-20028
Make sure ramps and walkways used to access scaffolds meet these requirements	WAC 296-874-20030
Make sure surfaces used to access scaffolds are close enough to use safely	WAC 296-874-20032
Inspect scaffolds and scaffold components	WAC 296-874-20034
Make sure damaged or weakened scaffolds meet minimum strength requirements	WAC 296-874-20036
Make sure scaffolds are properly loaded	WAC 296-874-20038
Protect employees when moving scaffolds	WAC 296-874-20040
Increase employee working level height on scaffolds safely	WAC 296-874-20042
Control loads being hoisted near scaffolds	WAC 296-874-20044
Protect employees from energized power lines	WAC 296-874-20046
Protect employees from weather hazards	WAC 296-874-20048
Protect employees from slipping and tripping hazards	WAC 296-874-20050
Provide fall protection for employees on scaffolds	WAC 296-874-20052
Provide fall protection if the scaffold is too far from the work face	WAC 296-874-20054
Provide specific fall protection for specific types of scaffolds	WAC 296-874-20056
Make sure personal fall arrest systems meet these requirements	WAC 296-874-20058
Make sure vertical lifelines used with personal fall arrest systems meet these requirements	WAC 296-874-20060

You must meet the requirements…	in this section:
Make sure horizontal lifelines used with personal fall arrest systems meet these requirements	WAC 296-874-20062
Make sure guardrail systems meet these requirements	WAC 296-874-20064
Provide falling object protection	WAC 296-874-20066
Provide additional support lines on suspended scaffolds using a canopy for falling object protection	WAC 296-874-20068
Make sure toeboards meet these requirements	WAC 296-874-20070
Train employees who work on scaffolds	WAC 296-874-20072
Train employees who erect, dismantle, operate or maintain scaffolds	WAC 296-874-20074
Retrain employees when necessary	WAC 296-874-20076

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20002 Make sure scaffolds are properly designed and constructed. ((~~You must:~~

~~•~~)) (1) You must make sure scaffolds are:

((~~–~~)) (a) Designed by a qualified person; ((~~AND~~

~~–~~)) and

(b) Constructed according to that design.

((~~•~~)) (2) You must prohibit the use of shore and lean-to scaffolds.

((~~**Definition:**~~

~~A **qualified person** is one who has demonstrated the ability to solve problems related to the subject matter, work, or project. This can be done by having either:~~

~~• A recognized degree, certificate, or professional standing;~~

~~**OR**~~

~~• Extensive knowledge, training, and experience.~~))

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20004 Make sure scaffolds are erected, moved, altered, or dismantled by ((~~appropriate~~)) qualified persons. ((~~You must:~~

~~•~~)) You must make sure scaffolds are erected, moved, altered, or dismantled only when the work is:

((–)) (1) Supervised and directed by a competent person qualified in scaffold erection, moving, dismantling, or alteration; ((~~AND~~

–)) and

(2) Done by experienced and trained employees selected by the competent person.

((~~**Definition:**~~

~~A **competent person** is someone who:~~

~~• Is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees;~~

~~**AND**~~

~~• Has the authority to take prompt corrective measures to eliminate them.~~))

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20006 Maintain structural integrity when intermixing scaffold components. ((~~**You must:**~~

~~•~~)) (1) You must make sure intermixed scaffold components:

((–)) (a) Fit together without force; ((~~**AND**~~

–)) and

(b) Maintain the scaffold's structural integrity.

((~~•~~)) (2) You must make sure a qualified person determines that modifying components in order to intermix them will result in a structurally sound scaffold.

((~~•~~)) (3) You must make sure scaffold components made of different metals are not used together.

((~~Exemption:~~)) EXEMPTION: Different types of metals may be used together if a competent person determines that galvanic action will not reduce the strength of any component to less than the minimum strength required.

Reference: The minimum strength requirements are found in the following sections:
((~~•~~)) 1. Suspended scaffolds, WAC 296-874-30002;
((~~•~~)) 2. Supported scaffolds, WAC 296-874-40002.

AMENDATORY SECTION (Amending WSR 13-04-073, filed 2/4/13, effective 4/1/13)

WAC 296-874-20008 Make sure platforms are properly planked or decked. ((~~**You must:**~~

~~•~~)) (1) You must fully plank or deck each platform between the front uprights and the guardrail supports on all working levels of a scaffold so that there is no more than one inch (2.5 cm):

((–)) (a) Between adjacent units; ((~~**AND**~~

–)) and

(b) Between the platform and the uprights.

((~~Exemption:~~)) EXEMPTION:

((~~•~~)) 1. There may be more than one inch between platform units if all of the following are met:

((–)) a. You can demonstrate that a wider space is necessary, such as to fit around uprights when side brackets are used to extend the platform width;
((–)) b. The platform is planked or decked as fully as possible;
((–)) c. The open space between the platform and the guardrail supports is nine and one-half inches (24.1 cm) or less.

((~~•~~)) 2. Platforms used solely as walkways or only by employees erecting or dismantling scaffolds do not have to be fully decked or planked if:
((–)) a. The planking provided makes for safe working conditions; ((~~AND~~)) and
((–)) b. Employees on those platforms are protected from falling.

REFERENCE		
Fall protection requirements for employees:	Are located in the following chapters:	In the following sections:
On walkways within scaffolds	Chapter 296-874 WAC, Scaffolds	WAC 296-874-20056
Erecting or dismantling supported scaffolds	Chapter 296-874 WAC, Scaffolds	WAC 296-874-40010
Erecting or dismantling suspended scaffolds in general industry	Chapter 296-24 WAC, General safety and health standards	Part J-1 Working surfaces, guarding floors and wall openings, ladders AND Part J-3 Powered platforms
Erecting or dismantling suspended scaffolds in construction work	Chapter 296-155 WAC, Safety standards for construction work	Part C-1 Fall protection requirements for construction

((~~You must:~~
~~•~~)) (2) You must make sure wood platforms are not covered with an opaque finish.

((~~Exemption:~~)) Platform edges may be covered or marked for identification.
EXEMPTION:

Note: Platforms may be coated periodically with wood preservatives, fire-retardant finishes, or slip-resistant finishes if the coating does not obscure the top or bottom wood surfaces.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20010 Make sure platforms meet minimum width requirements. ((~~You must:~~
~~•~~)) You must make sure scaffold platforms meet the minimum width requirements of Table 1, Minimum Platform Width.

Table 1
Minimum Platform Width

Type of Scaffold	Minimum Platform Width Required
Ladder jack scaffold Pump jack scaffold Roof bracket scaffold Top plate bracket scaffold	12 inches (20 cm)
Boatswain's chair	No minimum width
All other scaffolds	18 inches (46 cm) **Exemption:**

Type of Scaffold	Minimum Platform Width Required
	Platforms and walkways may be less than 18 inches (46 cm) wide if all of the following are met: ((•)) 1. You can demonstrate that the area is so narrow that the platform or walkway cannot be at least 18 inches (46 cm) wide; ((•)) 2. The platform or walkway is as wide as feasible; ((•)) 3. Employees on those platforms or walkways are protected from falling by using guardrails or personal fall arrest systems.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20012 Meet these requirements when using shorter platforms to create a longer platform. ((~~You must:~~

~~•~~)) (1) You must make sure, when platforms are overlapped to create a longer platform, that:

((–)) (a) The overlap is over a support; ((~~AND~~

–)) (b) The platforms are either:

((■)) (i) Overlapped by at least twelve inches (30 cm); ((~~OR~~

■)) or

(ii) Are nailed together or otherwise prevented from moving.

((~~•~~)) (2) You must make sure, when platforms are butted together to create a longer platform, that each abutted platform end rests on a separate support surface.

Note: Platforms may butt together on a common support member if the member is designed to support abutting platforms, such as either:
((•)) 1. A "T" section; ((~~OR~~)) or
((•)) 2. Hook-on platforms designed to rest on common supports.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20014 Lay platform planks properly when the platform changes direction. ((~~You must:~~

~~•~~)) You must do the following whenever platforms overlap to change direction:

((–)) (1) First lay the platform that rests on a bearer at an angle other than a right angle; ((~~THEN~~

–)) then

(2) Lay the platform that is perpendicular to the bearer.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20016 Stabilize the ends of platforms. ((~~You must:~~

~~•~~)) (1) You must make sure each end of a platform:

((–)) (a) Is cleated or restrained by hooks or equivalent means; ((~~OR~~

–)) or

(b) Extends over the centerline of its support at least six inches (15 cm).

((~~•~~)) (2) You must make sure the cantilevered portion of a platform meets at least one of the following:

((–)) (a) Is designed and installed to support employees or material without tipping;

((–)) (b) Has guardrails which block employee access to the cantilevered end;

((–)) (c) Extends over its support not more than:

((■)) (i) Twelve inches (30 cm) if the platform length is ten feet or less; ((~~OR~~

■)) or

(ii) Eighteen inches (46 cm) if the platform length is greater than ten feet.

Note: The cantilevered portion of a platform is the portion that is not supported on one end.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20018 Keep platform sag within acceptable limits. ((~~You must:~~

~~•~~)) You must make sure a loaded platform does not sag more than one-sixtieth of the span.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20020 Provide safe access to scaffolds. ((~~You must:~~

~~•~~)) (1) You must provide scaffold platforms more than two feet (0.6 m) above or below a point of access with at least one of the following means of access:

((–)) (a) Portable, hook-on, or attachable ladder;

((–)) (b) Stairway-type ladder;

((–)) (c) Ladder stand;

((–)) (d) Stair tower (scaffold stairway or tower);

((–)) (e) Ramp;

((–)) (f) Walkway;

((–)) (g) Integral prefabricated scaffold access;

((–)) (h) Direct access from another scaffold, structure, personnel hoist, or similar surface.

((~~•~~)) (2) You must make sure crossbraces are not used as a means of access.

Reference: For requirements about integral prefabricated scaffold access, go to WAC 296-874-40020.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20022 Make sure portable, hook-on, and attachable ladders meet these requirements. ((~~You must:~~

~~•~~)) (1) You must position portable, hook-on, and attachable ladders so they do not tip the scaffold.

((~~•~~)) (2) You must make sure hook-on and attachable ladders meet all of the following:

((~~–~~)) (a) Specifically designed and used for that type of scaffold;

((~~–~~)) (b) Have rungs that are:

((~~■~~)) (i) Uniformly spaced;

((~~■~~)) (ii) Not more than sixteen and three-quarters inches apart;

((~~■~~)) (iii) At least eleven and one-half inches (29 cm) long;

((~~■~~)) (iv) Lined up vertically between rest platforms.

((~~•~~)) (3) You must position the bottom rung not more than twenty-four inches (61 cm) above the scaffold supporting level.

((~~•~~)) (4) You must have rest platforms at vertical intervals not greater than twenty-four feet (7.3 m) on supported scaffolds.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20024 Make sure stairway-type ladders meet these requirements. ((~~You must:~~

~~•~~)) (1) You must make sure stairway-type ladders meet all of the following:

((~~–~~)) (a) Position the bottom step not more than twenty-four inches (61 cm) above the scaffold supporting level;

((~~–~~)) (b) Have rest platforms not more than twelve feet (3.7 m) apart vertically;

((~~–~~)) (c) Have slip-resistant surfaces on treads and landings;

((~~–~~)) (d) Have steps that:

((~~■~~)) (i) Are at least sixteen inches (41 cm) wide; ((~~AND~~

~~■~~)) and

(ii) Line up vertically between rest platforms.

((~~•~~)) (2) You must make sure mobile ladder stands have steps that are at least eleven and one-half inches (30 cm) wide.

((~~**Definition:**~~

~~A **ladder stand** is a mobile, fixed-size, self-supporting ladder consisting of a wide flat tread ladder in the form of stairs.~~))

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20026 Make sure stair towers meet these requirements. ((~~You must:~~

~~•~~)) (1) You must make sure stair towers (scaffold stairways or towers) meet all of the following:

((~~–~~)) (a) Are positioned so the bottom step is not more than twenty-four inches (61 cm) above the scaffold supporting level;

((~~–~~)) (b) Are at least eighteen inches (45.7 cm) wide between stair rails;

((~~–~~)) (c) Have slip-resistant surfaces on treads and landings;

((~~–~~)) (d) Are installed at an angle of forty to sixty degrees from the horizontal.

((~~•~~)) (2) You must provide a landing platform at least eighteen inches (45.7 cm) wide by eighteen inches (45.7 cm) long at each level.

((~~•~~)) (3) You must provide guardrails on the open sides and ends of each landing.

Reference: For requirements about guardrails, go to WAC 296-874-20064.

((~~You must:~~

~~•~~)) (4) You must make sure steps meet all of the following requirements:

((~~–~~)) (a) Line up vertically between rest platforms;

((~~–~~)) (b) Have uniform tread depth, within one-quarter inch (0.6 cm), for each flight of stairs;

((~~–~~)) (c) Have uniform riser height, within one-quarter inch (0.6 cm), for each flight of stairs.

Note: Riser height may have larger variations at the top step and bottom step of the entire stair system, but not at the top and bottom steps within each flight of stairs.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20028 Make sure stair rails and handrails meet these requirements. ((~~You must:~~

~~•~~)) (1) You must provide a stair rail that meets all of the following on each side of a scaffold stairway:

((~~–~~)) (a) Has a toprail and midrail;

((~~–~~)) (b) Has a toprail that can serve as a handrail if a separate handrail is not provided;

((~~–~~)) (c) Is at least twenty-eight inches (71 cm) but not more than thirty-seven inches (94 cm) high.

Note: Stair rail height is measured from the upper surface of the stair rail to the surface of the tread, in line with the face of the riser at the forward edge of the tread.

((~~You must:~~

~~•~~)) (2) You must make sure stair rail systems and handrails have:

((~~–~~)) (a) A surface that prevents employees from:

((~~■~~)) (i) Being injured by punctures or lacerations; ((~~OR~~

~~■~~)) or

(ii) Snagging their clothing.

((~~–~~)) (b) Ends that do not create a projection hazard.

((~~•~~)) (3) You must make sure handrails, and top rails that are used as handrails:

((–)) (a) Provide an adequate handhold for employees to grasp to avoid falling; ((~~AND~~
–)) and
(b) Are at least three inches (7.6 cm) from other objects.

AMENDATORY SECTION (Amending WSR 13-04-073, filed 2/4/13, effective 4/1/13)

WAC 296-874-20030 Make sure ramps and walkways used to access scaffolds meet these requirements. ((~~You must:~~
~~•~~)) (1) You must make sure ramps and walkways are not inclined at a slope steeper than one vertical in three horizontal (1:3 or twenty degrees from the horizontal).
((~~•~~)) (2) You must make sure ramps and walkways that are inclined at a slope steeper than one vertical in eight horizontal (1:8) have cleats to provide footing which are:
((–)) (a) Securely fastened to the planks; ((~~AND~~
–)) and
(b) Spaced not more than fourteen inches (35 cm) apart.

Reference: Ramps and walkways that are four feet (1.2 m) or more above a lower level need to have a guardrail system. Those requirements are found in other chapters.
((–)) 1. For general industry activities, go to((:
■)) working surfaces, guarding floors and wall openings, Part J-1, in the general safety and health standards, chapter 296-24 WAC;
((–)) 2. For construction activities, go to((:
■)) floor openings, wall openings, and stairways, Parts C-1 and J, in the safety standards for construction work, chapter 296-155 WAC.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20032 Make sure surfaces used to access scaffolds are close enough to use safely. ((~~You must:~~
~~•~~)) You must make sure a surface used to provide access to or from a scaffold is not further from the scaffold than:
((–)) (1) Fourteen inches (36 cm) horizontally;
((–)) (2) Twenty-four inches (61 cm) vertically.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20034 Inspect scaffolds and scaffold components. ((~~You must:~~
~~•~~)) You must make sure scaffolds and scaffold components are inspected for visible defects by a competent person:
((–)) (1) Before each work shift; ((~~AND~~
–)) and
(2) After anything occurs that could affect the scaffold's structural integrity.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20036 Make sure damaged or weakened scaffolds meet minimum strength requirements.

((~~You must:~~

~~•~~)) You must make sure any scaffold or scaffold component that has been damaged or weakened so that it no longer meets the minimum strength requirements of this chapter, is immediately either:

((–)) (1) Repaired, replaced, or braced to meet the minimum strength requirements; ((~~OR~~

–)) or

(2) Removed from service until repaired.

Reference: For information on minimum strength requirements for suspended and supported scaffolds, go to the following sections within this chapter:
((–)) 1. Make sure suspended scaffolds and scaffold components meet these strength requirements, WAC 296-874-30002;
((–)) 2. Make sure supported scaffolds and scaffold components meet these strength requirements, WAC 296-874-40002.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20038 Make sure scaffolds are properly loaded. ((~~You must:~~

~~•~~)) (1) You must load scaffolds as specified in the:

((–)) (a) Manufacturer's instructions; ((~~OR~~

–)) or

(b) Design of the qualified person.

((~~•~~)) (2) You must make sure scaffolds and scaffold components do not exceed their maximum intended load or rated load, whichever is less.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20040 Protect employees when moving scaffolds. ((~~You must:~~

~~•~~)) You must make sure scaffolds are not moved horizontally while employees are on them.

((~~Exemption:~~)) EXEMPTION: A scaffold may be moved horizontally with employees on it if the scaffold:

((~~•~~)) 1. Has been specifically designed for such movement by a registered professional engineer; ((~~OR~~)) or
((~~•~~)) 2. Is a mobile scaffold that meets the requirements of the section, Meet these requirements when moving mobile scaffolds, WAC 296-874-40012.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20042 Increase employee working level height on scaffolds safely. ((~~You must:~~

~~•~~)) (1) You must make sure makeshift devices, such as boxes and barrels, are not used on scaffold platforms to increase the working level height for employees.

((~~•~~)) (2) You must meet all of the following when using stilts on scaffolds:

((~~–~~)) (a) Use stilts only on large area scaffolds((~~;~~)).

((~~–~~)) (b) Increase the height of a guardrail system used for fall protection by an amount equal to the height of the stilts being used((~~;~~)).

((~~–~~)) (c) Make sure scaffold platforms where stilts are used are flat and free of:

((~~■~~)) (i) Pits, holes, and obstructions such as debris; ((~~AND~~

~~■~~)) and

(ii) Other tripping or falling hazards.

((~~–~~)) (d) Make sure stilts are:

((~~■~~)) (i) Properly maintained; ((~~AND~~

~~■~~)) and

(ii) Not altered from the original equipment ((~~is not altered~~)) without the manufacturer's approval.

((~~•~~)) (e) Meet all of the following when using ladders on scaffolds:

((~~–~~)) (i) Use ladders only on large area scaffolds;

((~~–~~)) (ii) Secure the platform units to the scaffold to prevent movement;

((~~–~~)) (iii) Secure the scaffold against the sideways thrust exerted by the ladder if the ladder is placed against a structure that's not part of the scaffold;

((~~–~~)) (iv) Make sure the ladder legs are:

((~~■~~)) (A) Secured to prevent them from slipping or being pushed off the platform; ((~~AND~~

~~■~~)) and

(B) On the same scaffold platform, or use other means, to stabilize the ladder against uneven platform deflection.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20044 Control loads being hoisted near scaffolds. ((~~**You must:**~~

~~•~~)) You must use a tag line or equivalent measures to control loads being hoisted onto or near a scaffold if the load could swing and contact the scaffold.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20046 Protect employees from energized power lines. ((~~**You must:**~~

~~•~~)) You must make sure scaffolds are erected, moved, altered, or dismantled so that they, and any conductive material handled on them, are kept at least as far from exposed and energized power lines as

shown in Table 2, Minimum Separation Distance from Energized Power Lines.

Table 2
Minimum Separation Distance from Energized Power Lines

Voltage	Minimum Separation Distance
Less than 300 volts (insulated lines)	3 feet (0.9 m)
Less than 300 volts (uninsulated lines)	10 feet (3.1 m)
300 volts to 50 kv	10 feet (3.1 m)
More than 50 kv	10 feet (3.1 m) + 0.4 inches (1.0 cm) for each 1 kv over 50 kv **Note:** You may use an alternative minimum separation distance of 2 times the length of the line insulator, but never less than 10 feet (3.1 m).

((~~Exemption:~~)) EXEMPTION: Scaffolds and conductive materials handled on scaffolds may be closer to power lines than the minimum separation distance specified in Table 2 if **all** of the following are met:
((•)) 1. Less clearance is necessary to do the work;
((•)) 2. The utility company or electrical system operator has been notified of the need to work closer to the power lines;
((•)) 3. The utility company or electrical system operator has done at least one of the following:
((–)) a. ((~~Deenergized~~)) De-energized the lines;
((–)) b. Relocated the lines to meet the minimum separation distance requirement;
((–)) c. Installed protective coverings over the lines to prevent accidental contact.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20048 Protect employees from weather hazards. ((~~You must:~~
~~•~~)) (1) You must prohibit work on or from scaffolds during storms or high winds unless both of the following are met:
((–)) (a) A competent person has determined that it is safe for employees to be on the scaffold;
((–)) (b) The employees are protected by either:
((■)) (i) A personal fall arrest system; ((~~OR~~
■)) or
(ii) Wind screens.
((~~•~~)) (2) You must make sure wind screens are not used unless the scaffold is secured against the anticipated wind forces.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20050 Protect employees from slipping and tripping hazards. ((~~You must:~~
~~•~~)) (1) You must make sure debris does not accumulate on platforms.

((~~•~~)) (2) You must prohibit employees from working on scaffolds covered with snow, ice, or other slippery material.

((~~Exemption:~~)) Employees may be on scaffolds as necessary to remove the slipping hazard.
EXEMPTION:

AMENDATORY SECTION (Amending WSR 13-04-073, filed 2/4/13, effective 4/1/13)

WAC 296-874-20052 Provide fall protection for employees on scaffolds. ((~~You must:~~

~~•~~)) (1) You must protect each employee on a scaffold more than ten feet (3.1 m) above a lower level, from falling to the lower level, by providing either:

((~~–~~)) (a) A personal fall arrest system; ((~~OR~~

~~–~~)) or

(b) Guardrails.

REFERENCE		
Fall protection requirements for employees:	Are located in the following chapters:	In the following sections:
On walkways within scaffolds	Chapter 296-874 WAC, Scaffolds	WAC 296-874-20056
Erecting or dismantling supported scaffolds	Chapter 296-874 WAC, Scaffolds	WAC 296-874-40010
Erecting or dismantling suspended scaffolds in general industry	Chapter 296-24 WAC, General safety and health standards	Part J-1 Working surfaces, guarding floors and wall openings, ladders ((~~AND~~)) and Part J-3 Powered platforms
Erecting or dismantling suspended scaffolds in construction work	Chapter 296-155 WAC, Safety standards for construction work	Part C-1 Fall protection requirements for construction

((~~You must:~~

~~•~~)) (2) You must make sure employees erecting the scaffold install the guardrail system, if required, before the scaffold is used by any other employees.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20054 Provide fall protection if a scaffold is too far from the work face. ((~~You must:~~

~~•~~)) You must provide a guardrail system along the front edge of the platform, or have employees use a personal fall arrest system, if the distance from the front edge of the platform to the work face is greater than:

((–)) (1) Eighteen inches (46 cm) for scaffolds used for plastering and lathing operations;

((–)) (2) Fourteen inches (36 cm) for all other scaffolds.

AMENDATORY SECTION (Amending WSR 07-17-026, filed 8/7/07, effective 10/6/07)

WAC 296-874-20056 Provide specific fall protection for specific types of scaffolds. ((~~You must:~~

~~•~~)) (1) You must use a personal fall arrest system to protect employees on the following scaffolds:

((–)) (a) Boatswain's chair;

((–)) (b) Catenary scaffold;

((–)) (c) Float scaffold;

((–)) (d) Ladder jack scaffold;

((–)) (e) Needle beam scaffold.

((~~•~~)) (2) You must use a personal fall arrest system and a guardrail system to protect employees on:

((–)) (a) Single-point adjustable suspension scaffolds; ((~~AND~~

–)) and

(b) Two-point adjustable suspension scaffolds.

((~~•~~)) (3) You must protect employees working on a self-contained adjustable scaffold that has the platform:

((–)) (a) Supported by the frame structure, using a guardrail system with a minimum two hundred pound toprail capacity.

((–)) (b) Suspended by ropes, using:

((■)) (i) A guardrail system with a minimum two hundred pound toprail capacity; ((~~AND~~

■)) and

(ii) A personal fall arrest system.

((~~•~~)) (4) You must protect employees on walkways located within a scaffold by using a guardrail system that meets all of the following:

((–)) (a) Has a minimum two hundred pound toprail capacity;

((–)) (b) Is installed within nine and one-half inches (24.1 cm) of the walkway;

((–)) (c) Is installed along at least one side of the walkway.

AMENDATORY SECTION (Amending WSR 13-04-073, filed 2/4/13, effective 4/1/13)

WAC 296-874-20058 Make sure personal fall arrest systems meet these requirements. ((~~You must:~~

~~•~~)) (1) You must make sure personal fall arrest systems used on scaffolds for general industry activities, meet the requirements of personal fall arrest system, Appendix C, Part 1, WAC 296-24-88050, in powered platforms, Part J-3, found in the general safety and health standards, chapter 296-24 WAC.

((•)) (2) You must make sure personal fall arrest systems are attached by a lanyard to one of the following:

((–)) (a) Vertical lifeline;

((–)) (b) Horizontal lifeline;

((–)) (c) Appropriate structural member of the scaffold.

Reference: Requirements for personal fall arrest systems used on scaffolds for construction activities are in Part C-1, found in the safety standards for construction work, chapter 296-155 WAC.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20060 Make sure vertical lifelines used with personal fall arrest systems meet these requirements. ((~~You must:~~

•)) (1) You must make sure vertical lifelines are all of the following:

((–)) (a) Fastened to a fixed, safe point of anchorage;

((–)) (b) Independent of the scaffold;

((–)) (c) Protected from sharp edges and abrasion.

Note: Safe points of anchorage include structural members of buildings, but do **not** include:

((•)) 1. Standpipes, vents, or other piping systems;

((•)) 2. Electrical conduit;

((•)) 3. Outrigger beams;

((•)) 4. Counterweights.

((~~You must:~~

•)) (2) You must make sure vertical lifelines, independent support lines, and suspension ropes are **not** attached to any of the following:

((–)) (a) Each other;

((–)) (b) The same point of anchorage;

((–)) (c) The same point on the scaffold.

((•)) (3) You must make sure vertical lifelines, independent support lines, and suspension ropes do not use the same point of anchorage.

((•)) (4) You must make sure independent support lines and suspension ropes are not attached to a personal fall arrest system.

((•)) (5) You must make sure vertical lifelines are not used with single-point or two-point adjustable suspension scaffolds that have overhead components such as overhead protection or additional platform levels.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20062 Make sure horizontal lifelines used with personal fall arrest systems meet these requirements. ((~~You must:~~

•)) (1) You must equip single-point or two-point adjustable suspension scaffolds that use horizontal lifelines or structural members of the scaffold for fall protection with both of the following:

((–)) (a) Additional independent support lines that are equal in number and equivalent in strength to the suspension ropes;

((–)) (b) Automatic locking devices capable of stopping the scaffold from falling if one or both of the suspension ropes fail.

((~~•~~)) (2) You must make sure horizontal lifelines are secured to either:

((~~–~~)) (a) Two or more structural members of the scaffold; ((~~**OR**~~ ~~–~~)) or

(b) Looped around both the suspension ropes and independent support lines above the hoist and brake attached to the end of the scaffold.

((~~•~~)) (3) You must make sure independent support lines and suspension ropes are **not:**

((~~–~~)) (a) Attached to each other or the same point on the scaffold;

((~~–~~)) (b) Attached to or use the same point of anchorage.

((~~•~~)) (4) You must make sure independent support lines and suspension ropes are not attached to either:

((~~–~~)) (a) A personal fall arrest system; ((~~**OR**~~ ~~–~~)) or

(b) The same point on the scaffold as a personal fall arrest system.

((~~•~~)) (5) You must make sure, if a horizontal lifeline is used where it may become a vertical lifeline, that the device used to connect a lanyard to the horizontal lifeline is capable of locking in both directions on the lifeline.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20064 Make sure guardrail systems meet these requirements. ((~~**You must:**~~

~~•~~)) (1) You must make sure guardrails, if required, are installed along all open sides and ends of platforms.

((~~Exemption:~~)) **EXEMPTION:** For employees doing overhand bricklaying operations from a supported scaffold, a guardrail is not required on the side next to the wall.

((~~**Definition:**~~

~~Overhand bricklaying is the process of laying bricks and masonry units so that the surface of the wall is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. It includes mason tending and electrical installation incorporated into the brick wall.~~

~~**You must:**~~

~~•~~)) (2) You must make sure the height of the toprail top edge, or the equivalent member, of supported scaffolds is:

((~~–~~)) (a) At least thirty-six inches (0.9 m) and not more than forty-five inches (1.2 m) above the platform surface for scaffolds manufactured or first placed in service **before January 1, 2000;**

((~~–~~)) (b) At least thirty-eight inches (0.97 m) and not more than forty-five inches (1.2 m) above the platform surface for scaffolds manufactured or first placed in service **after January 1, 2000.**

((~~•~~)) (3) You must make sure the height of the toprail top edge, or the equivalent member, of suspended scaffolds that require guardrails and personal fall arrest systems, is at least thirty-six inches (0.9 m) and not more than forty-five inches (1.2 m) above the platform surface.

((~~Exemption:~~)) **EXEMPTION:** When conditions warrant, the height of the top edge of the toprail may be greater than forty-five inches if the guardrail system meets all other criteria of this chapter.

((~~You must:~~

~~•~~)) (4) You must make sure the top edge of the toprail doesn't drop below the required height when the minimum load, shown in Table 3, Minimum Toprail and Midrail Strength Requirements, is used.

((~~•~~)) (5) Each toprail and midrail, or equivalent member, of a guardrail system must be able to withstand, without failure, the force shown in Table 3, Minimum Toprail and Midrail Strength Requirements, when the force is applied as follows:

((–)) (a) To the toprail in a downward or horizontal direction at any point along its top edge;

((–)) (b) To the midrail in a downward or horizontal direction at any point.

Note: Midrail includes screens, mesh, intermediate vertical members, solid panels, and equivalent structural members of the guardrail system.

Table 3
Minimum Toprail and Midrail Strength Requirements

Type of Scaffold	Toprail Capacity	Midrail Capacity
((•)) Single-point adjustable suspension scaffolds ((•)) Two-point adjustable suspension scaffolds	100 pounds (445 n)	75 pounds (333 n)
((•)) All other scaffolds ((•)) Walkways within a scaffold	200 pounds (890 n)	150 pounds (666 n)

((~~You must:~~

~~•~~)) (6) You must install midrails, screens, mesh, intermediate vertical members, solid panels, or equivalent structural members as follows:

((–)) (a) Midrails at a height approximately midway between the top edge of the guardrail system and the platform surface;

((–)) (b) Screens and mesh:

((■)) (i) From the top edge of the guardrail system to the scaffold platform; ((~~AND~~

■)) and

(ii) Along the entire opening between the supports((~~;~~)).

((–)) (c) Intermediate members, such as balusters or additional rails, not more than nineteen inches (48 cm) apart.

((~~•~~)) (7) You must make sure steel or plastic banding is not used as a toprail or midrail.

((~~•~~)) (8) You must have a competent person inspect manila rope and plastic or other synthetic rope that is used as a toprail or midrail as frequently as necessary to make sure it continues to meet the strength requirements for a toprail or midrail.

Note: Crossbraces may be used as a toprail or midrail in a guardrail system if they meet the following requirements:
((•)) 1. The crossing point of the two braces is between:
((–)) a. 20" and 30" above the work platform when used as a midrail.
((–)) b. 38" and 48" above the work platform when used as a toprail.
((•)) 2. The end points at each upright are not more than 48" apart.

((~~You must:~~

~~•~~)) (9) You must make sure guardrails have a surface that prevents:

((–)) (a) Puncture and laceration injuries; ((~~AND~~
–)) and
(b) Snagging clothing.
((•)) (10) You must make sure any rail extending beyond the post of a guardrail does not create a projection hazard.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20066 Provide falling object protection.

Reference: Hardhats and possibly other personal protective equipment has to be used to protect employees exposed to overhead hazards.
((•)) 1. Those requirements are found in the safety and health core rules, chapter 296-800 WAC.
((–)) 2. Go to personal protective equipment (PPE), WAC 296-800-160.

((~~You must:~~
~~•~~)) (1) You must protect employees from being struck by tools, materials, or equipment falling from a scaffold by doing one or more of the following:
((–)) (a) Use a barricade to keep employees out of the area where falling objects could be a hazard((~~;~~)).
((–)) (b) Install a toeboard along the edge of the platform anywhere an object could fall on an employee below((~~;~~)).
((–)) (c) Install paneling or screening that covers from the top of the guardrail to the toeboard or platform anywhere the toeboard is **not** high enough to keep objects from falling off the platform((~~;~~)).
((–)) (d) Install a guardrail system with openings small enough to keep potential falling objects from passing through((~~;~~)).
((–)) (e) Erect a canopy structure, debris net, or catch platform over employees that does all of the following:
((■)) (i) Will contain or deflect falling objects;
((■)) (ii) Is strong enough to withstand the impact forces;
((■)) (iii) Is installed between the falling object hazard and the employees.
((•)) (2) You must make sure potential falling objects that are too large or heavy to be contained or deflected by the falling object protection you are using are:
((–)) (a) Moved away from the edge of the surface they could fall from; ((~~AND~~
–)) and
(b) Secured, as necessary, to prevent falling.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20068 Provide additional support lines on suspended scaffolds using a canopy for falling object protection. ((~~You must:~~
~~•~~)) You must equip suspended scaffolds, that use a canopy for falling object protection, with additional independent support lines that meet all of the following:
((–)) (1) Have the same number of support lines as there are suspension ropes;
((–)) (2) Are equivalent in strength to the suspension ropes;

((–)) (3) Are not attached to the same point of anchorage as the suspension ropes.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20070 Make sure toeboards meet these requirements. ((~~You must:~~

~~•~~)) You must make sure toeboards, when used, are:

((–)) (1) At least three and one-half inches (9 cm) high from the top edge of the toeboard to the platform;

((–)) (2) Securely fastened along the outer edge of the platform;

((–)) (3) Installed for enough distance along the platform to protect employees below;

((–)) (4) Installed so the gap between the bottom of the toeboard and the platform is one-quarter inch (0.7 cm) or less;

((–)) (5) Solid or with openings that are one inch (2.5 cm) or less in the largest dimension;

((–)) (6) Able to withstand, without failing, a force of at least fifty pounds (222 n) applied in a downward or horizontal direction anywhere along the toeboard.

((~~Exemption:~~)) EXEMPTION: On float (ship) scaffolds, an edging of three-quarters by one and one-half inch (2 x 4 cm) wood or the equivalent may be used instead of a toeboard.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20072 Train employees who work on a scaffold. ((~~You must:~~

~~•~~)) (1) You must have a qualified person train each employee who works on a scaffold to:

((–)) (a) Recognize the hazards associated with the type of scaffold they are using; ((~~AND~~

–)) and

(b) Understand the procedures to control or minimize the hazards.

((~~•~~)) (2) You must include the following subjects in your training:

((–)) (a) Hazards in the work area and how to deal with them, including:

((■)) (i) Electrical hazards;

((■)) (ii) Fall hazards;

((■)) (iii) Falling object hazards;

((■)) (iv) How to erect, maintain, and disassemble the fall protection and falling object protection systems being used((~~;~~)).

((–)) (b) How to:

((■)) (i) Use the scaffold;

((■)) (ii) Handle materials on the scaffold((~~;~~)).

((–)) (c) The load-carrying capacity and maximum intended load of the scaffold((~~;~~)).

((–)) (d) Any other requirements of this chapter that apply.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20074 Train employees who erect, dismantle, operate or maintain scaffolds. ((~~You must:~~

~~•~~)) (1) You must have a competent person train each employee who erects, disassembles, moves, operates, repairs, maintains, or inspects scaffolds to recognize any hazards associated with the work.

((~~•~~)) (2) You must make sure the training includes at least the following subjects:

((–)) (a) Hazards in the work area and how to deal with them;

((–)) (b) The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold being used;

((–)) (c) The design criteria, maximum intended load-carrying capacity and intended use of the scaffold;

((–)) (d) Any other requirements of this chapter that apply.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-20076 Retrain employees when necessary. ((~~You must:~~

~~•~~)) (1) You must retrain employees to reestablish proficiency if you believe they lack the skill or understanding to safely erect, use, or dismantle a scaffold.

((~~•~~)) (2) You must retraining is required in at least the following situations:

((–)) (a) An employee's work involving scaffolds is inadequate and indicates they lack the necessary proficiency((~~;~~)).

((–)) (b) A change in **any** of the following that presents a hazard the employee has not been trained for:

((■)) (i) Worksite;

((■)) (ii) Type of scaffold;

((■)) (iii) Fall protection;

((■)) (iv) Falling object protection;

((■)) (v) Other equipment.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-300 Suspended scaffolds.

((~~Section contents:~~)) Summary

Your responsibility:

To meet these requirements when using suspended scaffolds.

((~~Make sure suspended scaffolds and scaffold components meet these strength requirements~~

~~WAC 296-874-30002.~~

~~Make sure suspended scaffold outrigger beams meet these requirements~~

~~WAC 296-874-30004.~~

~~Make sure counterweights are safe and used properly~~
~~WAC 296-874-30006.~~
~~Make sure tiebacks meet these requirements~~
~~WAC 296-874-30008.~~
~~Make sure suspended scaffold support devices meet these requirements~~
~~WAC 296-874-30010.~~
~~Make sure scaffold hoists meet these requirements~~
~~WAC 296-874-30012.~~
~~Make sure scaffold hoists retain enough suspension rope~~
~~WAC 296-874-30014.~~
~~Make sure wire rope is in good condition~~
~~WAC 296-874-30016.~~
~~Make sure wire suspension rope connections meet these requirements~~
~~WAC 296-874-30018.~~
~~Make sure wire rope clips are used properly~~
~~WAC 296-874-30020.~~
~~Prevent swaying of two-point and multipoint suspension scaffolds~~
~~WAC 296-874-30022.~~
~~Use emergency escape and rescue devices appropriately~~
~~WAC 296-874-30024.~~
~~Protect suspension ropes from heat or corrosive substances~~
~~WAC 296-874-30026.~~
~~Take precautions while welding~~
~~WAC 296-874-30028.~~
~~Prohibit use of gasoline-powered equipment on suspended scaffolds~~
~~WAC 296-874-30030.~~
~~Meet these requirements when using catenary scaffolds~~
~~WAC 296-874-30032.~~
~~Meet these requirements when using float (ship) scaffolds~~
~~WAC 296-874-30034.~~
~~Meet these requirements when using interior hung scaffolds~~
~~WAC 296-874-30036.~~
~~Meet these requirements when using multilevel suspended scaffolds~~
~~WAC 296-874-30038.~~
~~Meet these requirements when using multipoint adjustable suspension scaffolds~~
~~WAC 296-874-30040~~
~~Meet these requirements when using needle beam scaffolds~~
~~WAC 296-874-30042.~~
~~Meet these requirements when using single-point adjustable suspension scaffolds~~
~~WAC 296-874-30044.~~
~~Meet these requirements when using two-point adjustable suspension scaffolds (swing stages)~~
~~WAC 296-874-30046.~~))

You must meet the requirements…	**in this section:**
Make sure suspended scaffolds and scaffold components meet these strength requirements	WAC 296-874-30002
Make sure suspended scaffold outrigger beams meet these requirements	WAC 296-874-30004

You must meet the requirements…	in this section:
Make sure counterweights are safe and used properly	WAC 296-874-30006
Make sure tiebacks meet these requirements	WAC 296-874-30008
Make sure suspended scaffold support devices meet these requirements	WAC 296-874-30010
Make sure scaffold hoists meet these requirements	WAC 296-874-30012
Make sure scaffold hoists retain enough suspension rope	WAC 296-874-30014
Make sure wire rope is in good condition	WAC 296-874-30016
Make sure wire suspension rope connections meet these requirements	WAC 296-874-30018
Make sure wire rope clips are used properly	WAC 296-874-30020
Prevent swaying of two-point and multipoint suspension scaffolds	WAC 296-874-30022
Use emergency escape and rescue devices appropriately	WAC 296-874-30024
Protect suspension ropes from heat or corrosive substances	WAC 296-874-30026
Take precautions while welding	WAC 296-874-30028
Prohibit use of gasoline-powered equipment on suspended scaffolds	WAC 296-874-30030
Meet these requirements when using catenary scaffolds	WAC 296-874-30032
Meet these requirements when using float (ship) scaffolds	WAC 296-874-30034
Meet these requirements when using interior hung scaffolds	WAC 296-874-30036
Meet these requirements when using multilevel suspended scaffolds	WAC 296-874-30038
Meet these requirements when using multipoint adjustable suspension scaffolds	WAC 296-874-30040
Meet these requirements when using needle beam scaffolds	WAC 296-874-30042
Meet these requirements when using single-point adjustable suspension scaffolds	WAC 296-874-30044

You must meet the requirements…	in this section:
Meet these requirements when using two-point adjustable suspension scaffolds (swing stages)	WAC 296-874-30046

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30002 Make sure suspended scaffolds and scaffold components meet these strength requirements. ((~~You must:~~

~~•~~)) (1) You must meet the following strength requirements:

((–)) (a) Suspended scaffolds must support, without failure, the total of their own weight plus four times the maximum intended load;

((–)) (b) Suspended scaffold components must meet the requirements contained in Table 4, Suspended Scaffold Strength Requirements.

((~~•~~)) (2) Surfaces that support scaffold support devices must withstand four times the rated load of the hoist.

Note: Scaffold support devices include outrigger beams, cornice hooks, parapet clamps, and similar devices.

Table 4
Suspended Scaffold Strength Requirements

These scaffold components:	Must meet these strength requirements:
Adjustable scaffold ((–)) Suspension ropes, including connecting hardware	Support six times the rated load of the hoist.
Adjustable scaffold ((–)) Direct connections to roofs and floors ((–)) Counterweights used to balance the scaffold	Resist four times the tipping moment with the scaffold operating at the rated load of the hoist.
Nonadjustable scaffold ((–)) Suspension ropes, including connecting hardware	Support six times the maximum intended load applied or transmitted to the rope.
All other scaffold components	Support its own weight plus four times the maximum intended load.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30004 Make sure suspended scaffold outrigger beams meet these requirements. ((~~You must:~~

~~•~~)) (1) You must make sure outrigger beams are made of structural metal or equivalent strength material.

((~~•~~)) (2) You must stabilize the inboard ends of outrigger beams by using either:

((–)) (a) Bolts or other direct connections to the floor or roof deck; ((~~OR~~
–)) or
(b) Counterweights and tiebacks.

((~~Exemption:~~)) Masons' multipoint adjustable scaffold outrigger beams **cannot** be stabilized by counterweights.
EXEMPTION:

((~~You must:~~
~~•~~)) (3) You must make sure, before the scaffold is used, that a competent person:
((–)) (a) Evaluates the direct connections; ((~~AND~~
–)) and
(b) Confirms that the supporting surfaces can support the loads placed on them.
((~~•~~)) (4) You must make sure suspended scaffold outrigger beams are all of the following:
((–)) (a) Restrained to prevent moving;
((–)) (b) Provided with stop bolts or shackles at both ends;
((–)) (c) Securely fastened together with the flanges turned out when channel iron beams are used in place of I-beams;
((–)) (d) Set and maintained with the web in a vertical position;
((–)) (e) Placed so the suspension rope is centered over the stirrup.
((~~•~~)) (5) You must place outrigger beams at a right angle (perpendicular) to their bearing support.

((~~Exemption:~~)) Outrigger beams can be placed at other than a right angle (perpendicular) if:
EXEMPTION:

((~~•~~)) 1. You can demonstrate that immovable obstructions make it impossible to place the beams at a right angle (perpendicular) to their bearing support; ((~~AND~~)) and
((~~•~~)) 2. Opposing angle tiebacks are used.

Note: The angle between the outrigger beam and the bearing support is usually the same as the angle between the outrigger beam and the face of the building or structure.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30006 Make sure counterweights are safe and used properly. ((~~You must:~~
~~•~~)) (1) You must make sure counterweights:
((–)) (a) Are made of material that cannot flow; ((~~AND~~
–)) and
(b) Have been specifically designed to be used as counterweights.

Note: The following cannot be used as counterweights:
((~~•~~)) 1. Sand, gravel and similar materials that can be easily dislocated;
((~~•~~)) 2. Construction material such as masonry units and roofing felt.

((~~You must:~~
~~•~~)) (2) You must secure counterweights to outrigger beams by mechanical means to prevent them from being accidentally detached.
((~~•~~)) (3) You must leave counterweights attached to the outrigger beams until after the scaffold has been disassembled.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30008 Make sure tiebacks meet these requirements. ((~~You must:~~

~~•~~)) (1) You must make sure tiebacks are equivalent in strength to the suspension ropes.

((~~•~~)) (2) You must make sure tiebacks are secured to a structurally sound anchorage on the building or structure and installed:

((~~–~~)) (a) At a right angle (perpendicular) to the face of the building or structure; ((~~OR~~

~~–~~)) or

(b) As opposing angle tiebacks.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30010 Make sure suspended scaffold support devices meet these requirements. ((~~You must:~~

~~•~~)) You must make sure suspended scaffold support devices, such as cornice hooks, roof hooks, roof irons, parapet clamps, or similar devices, are:

((~~–~~)) (1) Made of steel, wrought iron, or other material of equivalent strength;

((~~–~~)) (2) Supported by bearing blocks;

((~~–~~)) (3) Prevented from moving by using tiebacks.

Reference: ((~~•~~)) 1. For outrigger beam requirements, go to WAC 296-874-30004;
((~~•~~)) 2. For tieback requirements go to WAC 296-874-30008.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30012 Make sure scaffold hoists meet these requirements. ((~~You must:~~

~~•~~)) (1) You must make sure the stall load of any scaffold hoist is **not** more than three times its rated load.

((~~•~~)) (2) You must make sure the design of scaffold hoists has been tested by an independent nationally recognized testing laboratory.

((~~•~~)) (3) You must make sure scaffold hoists have both a:

((~~–~~)) (a) Normal operating brake; ((~~AND~~

~~–~~)) and

(b) Braking device or locking pawl which automatically engages when the hoist has an uncontrolled:

((~~■~~)) (i) Instantaneous change in momentum; ((~~OR~~

~~■~~)) or

(ii) An accelerated overspeed.

((~~•~~)) (4) You must prohibit use of gasoline-powered hoists on suspended scaffolds.

((~~•~~)) (5) You must enclose the gears and brakes of power-operated hoists used on suspended scaffolds.

((~~•~~)) (6) You must make sure manually operated hoists need a positive crank force to descend.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30014 Make sure scaffold hoists retain enough suspension rope. ((~~**You must:**~~

~~•~~)) (1) You must make sure the suspension rope on winding drum hoists is long enough to wrap around the drum at least four times when the scaffold is at its lowest point of travel.

((~~•~~)) (2) You must make sure the suspension rope on hoists that do **not** use a winding drum:

((–)) (a) Is long enough to allow the scaffold to be lowered to the level below without the rope end passing through the hoist; ((~~**OR**~~

–)) or

(b) Has the rope end configured, or uses other means, to prevent it from passing through the hoist.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30016 Make sure wire rope is in good condition. ((~~**You must:**~~

~~•~~)) (1) You must make sure a competent person inspects each rope for defects:

((–)) (a) Before each work shift; ((~~**AND**~~

–)) and

(b) After anything happens that could affect the rope's integrity.

((~~•~~)) (2) You must replace a rope if it has any of the following:

((–)) (a) Physical damage which impairs the function and strength of the rope;

((–)) (b) Kinks that could impair the tracking or wrapping of the rope around a drum or sheave;

((–)) (c) Six randomly distributed broken wires in one rope lay;

((–)) (d) Three broken wires in one strand of one rope lay;

((–)) (e) Loss of more than one-third of the original diameter of the outside wires caused by abrasion, corrosion, scrubbing, flattening or peening;

((–)) (f) Heat damage caused by a torch;

((–)) (g) Any damage caused by contact with electrical wires;

((–)) (h) Evidence that the secondary brake has been activated during an overspeed condition and has engaged the suspension rope.

((~~•~~)) (3) You must prohibit the use of repaired wire rope as suspension rope.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30018 Make sure wire suspension rope connections meet these requirements. ((~~You must:~~

~~•~~)) (1) You must only use eye splice thimbles connected with shackles or cover plates and bolts to join wire suspension ropes together.

((~~•~~)) (2) You must make sure the load ends of wire suspension ropes are:

((~~–~~)) (a) Equipped with proper size thimbles; ((~~AND~~

~~–~~)) and

(b) Secured by eye splicing or an equivalent means.

((~~•~~)) (3) You must make sure all swaged attachments or spliced eyes on wire suspension rope have been made by either:

((~~–~~)) (a) The wire rope manufacturer; ((~~OR~~

~~–~~)) or

(b) A qualified person.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30020 Make sure wire rope clips are used properly. ((~~You must:~~

~~•~~)) (1) You must make sure, if wire rope clips are used on suspended scaffolds, such as on the suspension ropes or support lines, that:

((~~–~~)) (a) A minimum of three clips are installed;

((~~–~~)) (b) The distance between clips is at least six rope diameters;

((~~–~~)) (c) Clips are installed according to the manufacturer's recommendations.

((~~•~~)) (2) You must retighten the clips to the manufacturer's recommendations after the initial loading.

((~~•~~)) (3) You must inspect the clips and retighten them to the manufacturer's recommendations at the start of each work shift.

((~~•~~)) (4) You must make sure U-bolt clips are not used at the point of suspension for any scaffold hoist.

((~~•~~)) (5) You must make sure, if U-bolt clips are used, that:

((~~–~~)) (a) The U-bolt is placed over the dead end of the rope; ((~~AND~~

~~–~~)) and

(b) The saddle is placed over the live end of the rope.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30022 Prevent swaying of two-point and multipoint suspension scaffolds. ((~~You must:~~

~~•~~)) You must tie or use other means to keep two-point and multi-point suspension scaffolds from swaying, if an evaluation by a competent person determines it is necessary.

Note: Window cleaners' anchors **cannot** be used to secure scaffolds since they are not designed to withstand the load.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30024 Use emergency escape and rescue devices appropriately. ((~~You must:~~

~~•~~)) You must make sure devices whose sole function is to provide emergency escape and rescue are not used as working platforms.

Note: Systems which are designed to function both as suspended scaffolds and emergency systems may be used as working platforms.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30026 Protect suspension ropes from heat or corrosive substances. ((~~You must:~~

~~•~~)) (1) You must shield suspension ropes from heat-producing processes.

((~~•~~)) (2) You must make sure, when acids or other corrosive substances are used on a scaffold, that the suspension ropes are protected by at least one of the following:

((~~–~~)) (a) Shielding;

((~~–~~)) (b) Treating to protect the rope from the corrosive substances;

((~~–~~)) (c) Making the rope of material that the corrosive substance will not damage.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30028 Take precautions while welding. ((~~You must:~~

~~•~~)) You must do the following to protect employees while welding on suspended scaffolds:

((~~–~~)) (1) Use an insulated thimble to attach each suspension wire rope to its hanging support, such as a cornice hook or outrigger;

((~~–~~)) (2) Insulate excess suspension wire rope and any additional independent lines to prevent grounding;

((~~–~~)) (3) Cover the wire suspension rope with insulating material that extends at least four feet (1.2 m) above the hoist;

((~~–~~)) (4) Make sure any tail line that extends below the hoist is:

((~~■~~)) (a) Insulated to prevent contact with the platform; ((~~AND~~

~~■~~)) and

(b) Guided or retained so it does not become grounded.

((~~–~~)) (5) Cover each hoist with an insulated protective cover;

((–)) (6) Connect the scaffold to the structure using a grounding conductor that:

((■)) (a) Is at least the size of the welding process work lead; ((~~AND~~

■)) and

(b) Is not in series with the welding process or the work piece.

((–)) (7) Shut off the welding machine if the scaffold grounding lead becomes disconnected;

((–)) (8) Make sure an active welding rod or an uninsulated welding lead is not allowed to contact the:

((■)) (a) Scaffold; ((~~OR~~

■)) or

(b) Scaffold suspension system.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30030 Prohibit use of gasoline-powered equipment on suspended scaffolds. ((~~You must:~~

~~•~~)) You must make sure gasoline-powered equipment is **not** used on suspended scaffolds.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30032 Meet these requirements when using catenary scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure catenary scaffolds have:

((–)) (a) No more than one platform between consecutive vertical pickups; ((~~AND~~

–)) and

(b) No more than two platforms per scaffold.

((~~•~~)) (2) You must make sure any platform that's supported by wire ropes has hook-shaped stops placed at each end of the platform that will prevent it from falling if one of the horizontal wire ropes breaks.

((~~•~~)) (3) You must make sure wire ropes are:

((–)) (a) Continuous and without splices between anchors; ((~~AND~~

–)) and

(b) Not tightened to the point that putting a load on the scaffold will overstress them.

Reference: For specific fall protection requirements for employees on catenary scaffolds, go to WAC 296-874-20056.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30034 Meet these requirements when using float (ship) scaffolds. ((~~You must:~~

~~•~~)) (1) You must support the platform with at least two bearers.

((~~•~~)) (2) You must make sure each bearer:

((–)) (a) Projects at least six inches (15.2 cm) beyond the platform on both sides; ((~~AND~~

–)) and

(b) Is securely fastened to the platform.

((~~•~~)) (3) You must make sure rope connections won't allow the platform to shift or slip.

((~~•~~)) (4) You must make sure scaffolds that only have two ropes used with each float meet all of the following:

((–)) (a) There are four rope ends that are securely fastened to overhead supports;

((–)) (b) Each supporting rope is hitched around one end of the bearer, passed under the platform to the other end of the bearer, and hitched again;

((–)) (c) There is enough rope at each end for the supporting ties.

Reference: For specific fall protection requirements for employees on float (ship) scaffolds, go to WAC 296-874-20056.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30036 Meet these requirements when using interior hung scaffolds. ((~~You must:~~

~~•~~)) (1) You must suspend the scaffold only from the roof structure or other structural member, such as ceiling beams.

((~~•~~)) (2) You must inspect the overhead supporting members and check to make sure they're strong enough before erecting the scaffold.

((~~•~~)) (3) You must connect suspension ropes and cables to the overhead supporting members by:

((–)) (a) Shackles, clips, or thimbles; ((~~OR~~

–)) or

(b) Other means that meet equivalent criteria, such as strength and durability.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30038 Meet these requirements when using multilevel suspended scaffolds. ((~~You must:~~

~~•~~)) (1) You must equip scaffolds with additional independent support lines that meet all of the following:

((–)) (a) There are the same number of support lines as there are connection points for the suspension ropes;

((–)) (b) The support lines are equivalent in strength to the suspension ropes;

((–)) (c) The support lines are rigged to support the scaffold if the suspension ropes fail.

((~~•~~)) (2) You must make sure the independent support lines and the suspension ropes are not attached to the same points of anchorage.

((~~•~~)) (3) You must attach platform supports directly to the support stirrup and not to another platform.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30040 Meet these requirements when using multipoint adjustable suspension scaffolds.

((~~IMPORTANT:~~)) Important:

This requirement applies when using multipoint adjustable suspension scaffolds, stonesetters' multipoint adjustable suspension scaffolds, and masons' multipoint adjustable suspension scaffolds.

((~~**You must:**~~

~~•~~)) (1) You must make sure masons' multipoint adjustable suspension scaffold connections are designed by an engineer experienced in designing this type of scaffold.

((~~•~~)) (2) You must make sure bridges between two or more scaffolds meet all of the following:

((~~–~~)) (a) The scaffolds were designed to be bridged;

((~~–~~)) (b) The bridges are articulated;

((~~–~~)) (c) The hoists are properly sized.

((~~•~~)) (3) You must make sure passage from one platform to another, without using bridges, is done only when the platforms are:

((~~–~~)) (a) At the same height; ((~~**AND**~~

~~–~~)) and

(b) Abutting.

((~~•~~)) (4) You must suspend scaffolds from:

((~~–~~)) (a) Metal outriggers, brackets, wire rope slings, or hooks; ((~~**OR**~~

~~–~~)) or

(b) Other means that meet equivalent criteria, such as strength and durability.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30042 Meet these requirements when using needle beam scaffolds. ((~~**You must:**~~

~~•~~)) (1) You must install scaffold support beams on edge.

((~~•~~)) (2) You must use ropes or hangers for scaffold supports((~~÷~~

~~–~~)). One end of a needle beam scaffold may be supported by a permanent structural member.

((~~•~~)) (3) You must securely attach ropes to the needle beams.

((~~•~~)) (4) You must arrange the support connection to prevent the needle beam from rolling or becoming displaced.

((~~•~~)) (5) You must securely attach platform units to the needle beams with bolts or equivalent means.

Note: Cleats and overhang are not adequate means of attachment.

Reference: For specific fall protection requirements for employees on needle beam scaffolds, go to WAC 296-874-20056.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30044 Meet these requirements when using single-point adjustable suspension scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure two scaffolds that have been combined to form a two-point adjustable suspension scaffold meet the requirements of the section. Make sure two-point adjustable suspension scaffolds (swing stages) meet these requirements, WAC 296-874-30046.

((~~•~~)) (2) You must make sure scaffolds, where the suspension rope between the scaffold and the suspension device is not vertical, meet all of the following:

((~~–~~)) (a) The rigging has been designed by a qualified person;

((~~–~~)) (b) The scaffold is accessible to rescuers;

((~~–~~)) (c) The suspension rope is protected from chafing at any point where it changes direction;

((~~–~~)) (d) The scaffold is positioned so that swinging cannot bring the scaffold into contact with another surface.

((~~•~~)) (3) You must make sure boatswain's chair tackle meets all of the following:

((~~–~~)) (a) It consists of correct size ball bearing blocks or bushed blocks((~~;~~)).

((~~–~~)) (b) The blocks contain safety hooks((~~;~~)).

((~~–~~)) (c) The rope is properly eye spliced((~~;~~)).

((~~–~~)) (d) The rope is either:

((~~■~~)) (i) First-grade manila rope that has a diameter of at least five-eighths inch (1.6 cm); ((~~OR~~

~~■~~)) or

(ii) Other rope that has equivalent characteristics, such as strength and durability.

((~~•~~)) (4) You must make sure boatswain's chair seat slings meet all of the following:

((~~–~~)) (a) Are reeved through four corner holes in the seat((~~;~~)).

((~~–~~)) (b) Cross each other on the underside of the seat((~~;~~)).

((~~–~~)) (c) Are rigged to prevent slipping which could cause the seat to become out-of-level((~~;~~)).

((~~–~~)) (d) Are made from fiber, synthetic, or other rope which have:

((~~■~~)) (i) A diameter of at least five-eighths inch (1.6 cm); ((~~AND~~

~~■~~)) and

(ii) Characteristics equivalent to first grade manila rope, such as strength, slip resistance, and durability.

((~~•~~)) (5) You must make sure the seat sling of boatswain's chairs used when a heat-producing process, such as gas or arc welding, is being conducted is at least three-eighths inch (1.0 cm) wire rope.

((~~•~~)) (6) You must securely fasten cleats to the underside of noncross-laminated wood boatswain's chairs to prevent the board from splitting.

Reference: For specific fall protection requirements for employees on single-point adjustable suspension scaffolds, go to WAC 296-874-20056.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-30046 Meet these requirements when using two-point adjustable suspension scaffolds (swing stages).

((~~**IMPORTANT:**~~)) IMPORTANT:

This section does not apply to two-point adjustable suspension scaffolds used as masons' or stonesetters' scaffolds.

Reference: For requirements for masons' or stonesetters' scaffolds, go to WAC 296-874-30040.

((~~**You must:**~~

~~•~~)) (1) You must make sure platforms more than thirty-six inches (0.9 m) wide have been designed by a qualified person to prevent unstable conditions.

((~~•~~)) (2) You must make sure platforms are one of the following:

((~~–~~)) (a) Ladder-type;

((~~–~~)) (b) Plank-type;

((~~–~~)) (c) Beam-type;

((~~–~~)) (d) Light-metal type.

((~~•~~)) (3) You must make sure the design of light-metal type platforms have been tested and listed by a nationally recognized testing laboratory if they:

((~~–~~)) (a) Have a rated capacity of seven hundred fifty pounds or less; ((~~**OR**~~

~~–~~)) or

(b) Have a length of forty feet (12.2 m) or less.

((~~•~~)) (4) You must securely fasten the platform to the hangers (stirrups) using U-bolts or other means that satisfy the section titled, Make sure suspended scaffolds and scaffold components meet these strength requirements, WAC 296-874-30002.

((~~•~~)) (5) You must make sure fiber or synthetic ropes are used with blocks that:

((~~–~~)) (a) Consist of at least one double and one single block; ((~~**AND**~~

~~–~~)) and

(b) Have sheaves that fit the size of the rope used.

((~~•~~)) (6) You must make sure employees move from one platform to another only when all of the following are met:

((~~–~~)) (a) The platforms are at the same height;

((~~–~~)) (b) The platforms are abutting;

((~~–~~)) (c) Walk-through stirrups are used that have been specifically designed to allow employee passage.

((~~•~~)) (7) You must make sure two-point scaffolds that are bridged or otherwise connected together when being raised or lowered meet both of the following:

((~~–~~)) (a) The bridge connections are articulated;

((~~–~~)) (b) The hoists are properly sized.

Reference: For specific fall protection requirements for employees on two-point adjustable suspension scaffolds, go to WAC 296-874-20056.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-400 Supported scaffolds.

((~~**Section contents:**~~)) **Summary**

Your responsibility:

To meet these requirements when using supported scaffolds.

((~~Make sure supported scaffolds and scaffold components meet strength requirements~~

~~WAC 296-874-40002.~~

~~Prevent supported scaffolds from tipping~~

~~WAC 296-874-40004.~~

~~Make sure supported scaffolds are properly supported~~

~~WAC 296-874-40006.~~

~~Provide safe access for persons erecting or dismantling supported scaffolds~~

~~WAC 296-874-40008.~~

~~Provide fall protection for persons erecting or dismantling supported scaffolds~~

~~WAC 296-874-40010.~~

~~Meet these requirements when moving mobile scaffolds~~

~~WAC 296-874-40012.~~

~~Meet these requirements when using bricklayers' square scaffolds (squares)~~

~~WAC 296-874-40014.~~

~~Meet these requirements when using crawling boards (chicken ladders)~~

~~WAC 296-874-40016.~~

~~Meet these requirements when using fabricated frame scaffolds (tubular welded frame scaffolds)~~

~~WAC 296-874-40018.~~

~~Meet these requirements when using integral prefabricated scaffold access frames~~

~~WAC 296-874-40020.~~

~~Meet these requirements when using form scaffolds and carpenter's bracket scaffolds~~

~~WAC 296-874-40022.~~

~~Meet these requirements when using horse scaffolds~~

~~WAC 296-874-40024.~~

~~Meet these requirements when using ladder jack scaffolds~~

~~WAC 296-874-40026.~~

~~Meet these requirements when using outrigger scaffolds~~

~~WAC 296-874-40028.~~

~~Meet these requirements when using pole scaffolds~~

~~WAC 296-874-40030.~~

~~Meet these requirements when using pump jack scaffolds~~

~~WAC 296-874-40032.~~

~~Meet these requirements when using repair bracket scaffolds~~

~~WAC 296-874-40034.~~

~~Meet these requirements when using roof bracket scaffolds~~

~~WAC 296-874-40036.~~

~~Meet these requirements when using step, platform, and trestle ladder scaffolds~~

~~WAC 296-874-40038.~~

~~Meet these requirements when using tube and coupler scaffolds~~

~~WAC 296-874-40040.~~

~~Meet these requirements when using window jack scaffolds~~

~~WAC 296-874-40042.~~))

You must meet the requirements…	in this section:
Make sure supported scaffolds and scaffold components meet strength requirements	WAC 296-874-40002
Prevent supported scaffolds from tipping	WAC 296-874-40004
Make sure supported scaffolds are properly supported	WAC 296-874-40006
Provide safe access for persons erecting or dismantling supported scaffolds	WAC 296-874-40008
Provide fall protection for persons erecting or dismantling supported scaffolds	WAC 296-874-40010
Meet these requirements when moving mobile scaffolds	WAC 296-874-40012
Meet these requirements when using bricklayers' square scaffolds (squares)	WAC 296-874-40014
Meet these requirements when using fabricated frame scaffolds (tubular welded frame scaffolds)	WAC 296-874-40018
Meet these requirements when using integral prefabricated scaffold access frames	WAC 296-874-40020
Meet these requirements when using form scaffolds and carpenter's bracket scaffolds	WAC 296-874-40022
Meet these requirements when using horse scaffolds	WAC 296-874-40024
Meet these requirements when using ladder jack scaffolds	WAC 296-874-40026
Meet these requirements when using outrigger scaffolds	WAC 296-874-40028
Meet these requirements when using pole scaffolds	WAC 296-874-40030
Meet these requirements when using pump jack scaffolds	WAC 296-874-40032
Meet these requirements when using repair bracket scaffolds	WAC 296-874-40034
Meet these requirements when using roof bracket scaffolds	WAC 296-874-40036
Meet these requirements when using step, platform and trestle ladder scaffolds	WAC 296-874-40038

You must meet the requirements…	in this section:
Meet these requirements when using tube and coupler scaffolds	WAC 296-874-40040
Meet these requirements when using window jack scaffolds	WAC 296-874-40042

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40002 Make sure supported scaffolds and scaffold components meet strength requirements. ((~~You must:~~

~~•~~)) You must make sure each supported scaffold and scaffold component can support, without failure, the total of its own weight plus at least four times the maximum intended load applied or transmitted to it.

AMENDATORY SECTION (Amending WSR 07-17-026, filed 8/7/07, effective 10/6/07)

WAC 296-874-40004 Prevent supported scaffolds from tipping. ((~~You must:~~

~~•~~)) (1) You must make sure supported scaffolds with a height to least base dimension ratio of greater than four to one are prevented from tipping by one or more of the following:

((–)) (a) Guying;

((–)) (b) Tying;

((–)) (c) Bracing;

((–)) (d) Other equivalent means.

Note: The least base dimension includes outriggers, if used.

((~~You must:~~

~~•~~)) (2) You must install guys, ties, and braces where horizontal members support both the inner and outer legs of the scaffold.

((~~•~~)) (3) You must install guys, ties, and braces:

((–)) (a) According to the scaffold manufacturer's recommendations; ((~~OR~~

–)) or

(b) At all points where the following horizontal and vertical planes meet:

((■)) (i) First vertical level at a height equal to four times the least base dimension((~~;~~)).

((■)) (ii) Subsequent vertical levels every:

((✦)) (A) Twenty feet (6.1 m) or less for scaffolds having a width of three feet (0.91 m) or less;

((✦)) (B) Twenty six feet (7.9 m) or less for scaffolds more than three feet (0.91 m) wide((~~;~~)).

((■)) (iii) Horizontally at:

((✦)) (A) Each end of the scaffold; ((~~AND~~

((~~✦~~)) and
(B) Intervals of thirty feet (9.1 m) or less.

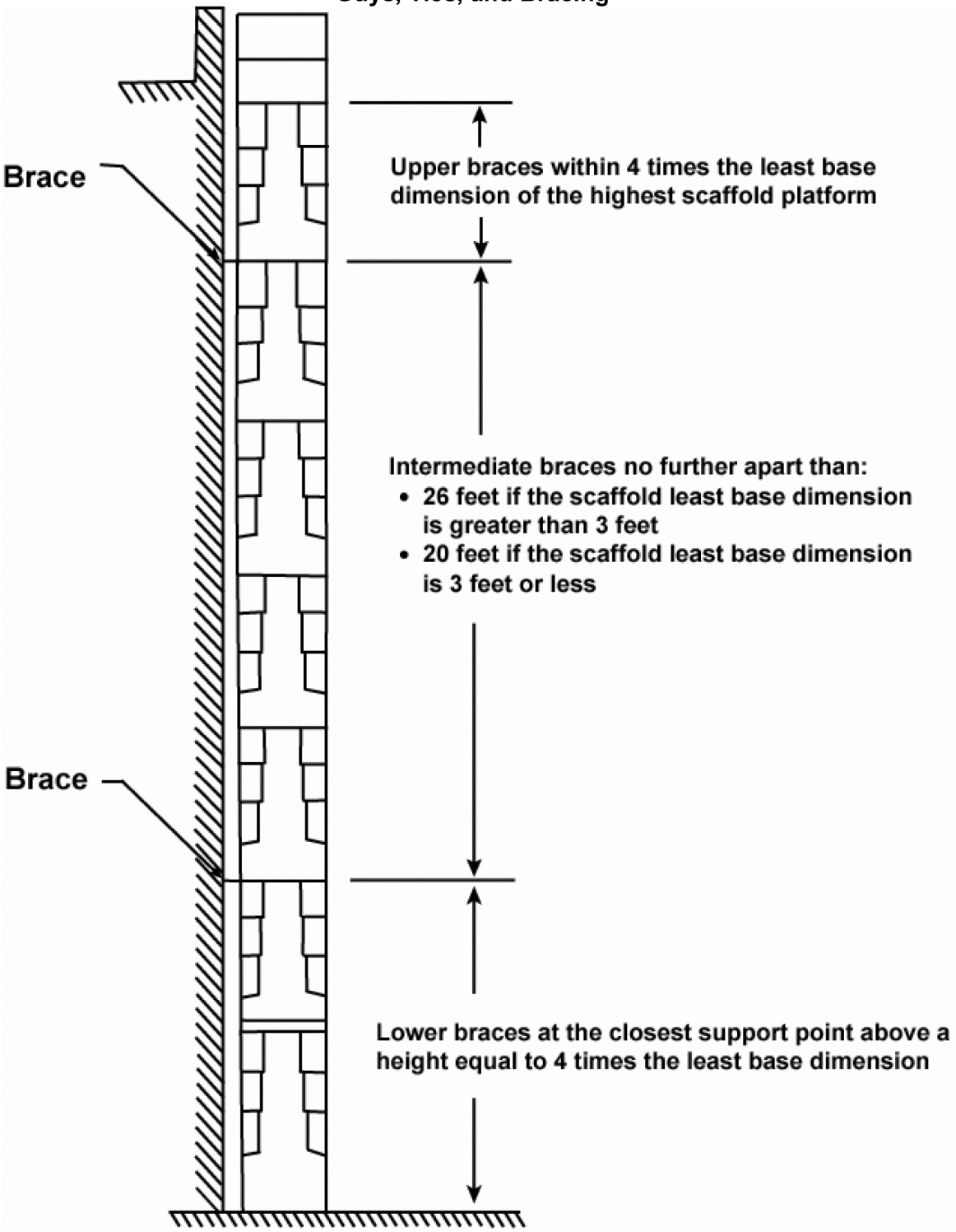
Note: The thirty-foot horizontal intervals are measured from one end of the scaffold to the other.

((~~**You must:**~~
~~•~~)) (4) You must make sure the highest level of guys, ties, or braces is no further from the top of the scaffold than a distance equal to four times the least base dimension.

((~~•~~)) (5) You must make sure scaffolds that have an eccentric load applied or transmitted to them, such as a cantilevered work platform, are prevented from tipping by one or more of the following:

((–)) (a) Guying;
((–)) (b) Tying;
((–)) (c) Bracing;
((–)) (d) Outriggers;
((–)) (e) Other equivalent means.

Guys, Ties, and Bracing



AMENDATORY SECTION (Amending WSR 07-17-026, filed 8/7/07, effective 10/6/07)

WAC 296-874-40006 Make sure supported scaffolds are properly supported. ((~~You must:~~

~~•~~)) (1) You must make sure supported scaffold poles, legs, posts, frames, and uprights are:

((~~–~~)) (a) Plumb; ((~~AND~~

~~–~~)) and

(b) Braced to prevent swaying or displacement.

((~~•~~)) (2) You must make sure supported scaffold poles, legs, posts, frames, and uprights, bear on base plates that rest on:

((~~–~~)) (a) Mudsills; ((~~OR~~

~~–~~)) or

(b) Other firm foundations such as concrete or dry, compacted soil.

((~~•~~)) (3) You must make sure foundations are all of the following:

((~~–~~)) (a) Level;

((~~–~~)) (b) Sound;

((~~–~~)) (c) Rigid;

((~~–~~)) (d) Capable of supporting the loaded scaffold without settling or displacement.

Note: The condition of the foundation may change due to weather or other factors. If changes occur, the foundation needs to be evaluated by a competent person to make sure it will safely support the scaffold.

((~~•~~)) (4) You must make sure unstable objects are not used:

((~~–~~)) (a) To support scaffolds or platform units;((~~–OR~~

~~–~~)) or

(b) As working platforms.

((~~•~~)) (5) You must make sure mobile scaffolds meet these additional requirements:

((~~–~~)) (a) Wheel and caster stems are pinned or otherwise secured in the scaffold legs or adjustment screws;

((~~–~~)) (b) Wheels and casters are locked, or equivalent means are used, to prevent movement when the scaffold is being used;

((~~–~~)) (c) Screw jacks or other equivalent means are used if it's necessary to level the work platform.

((~~•~~)) (6) You must make sure front-end loaders and similar equipment used to support scaffold platforms have been specifically designed for such use by the manufacturer.

Reference: When forklifts or other powered industrial trucks are used for personnel lifting on support scaffold platforms, follow the requirements found in Forklifts and other powered industrial trucks, chapter 296-868 WAC.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40008 Provide safe access for persons erecting or dismantling supported scaffolds. ((~~You must:~~

~~•~~)) (1) You must provide a safe means of access for persons erecting or dismantling scaffolds if it is:

((~~–~~)) (a) Feasible; ((~~AND~~

~~–~~)) and

(b) Does **not** create a greater hazard.

((~~•~~)) (2) You must have a competent person determine the feasibility of providing safe access.

((~~•~~)) (3) You must make sure the determination is based on site conditions and the type of scaffold being erected or dismantled.

((•)) (4) You must install a hook-on or attachable ladder as soon as scaffold erection has progressed to a point where it can be safely installed and used.

((•)) (5) You must make sure crossbraces on tubular welded frame scaffolds are not used to access or egress from the scaffold.

((•)) (6) You must make sure the frames of tubular welded frame scaffolds that are used as climbing devices meet all of the following:

((–)) (a) Create a usable ladder;

((–)) (b) Provide good hand holds and foot space;

((–)) (c) Have horizontal members that are all of the following:

((■)) (i) Parallel;

((■)) (ii) Level;

((■)) (iii) Spaced not more than twenty two inches apart vertically.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40010 Provide fall protection for persons erecting or dismantling supported scaffolds. ((~~You must:~~

~~•~~)) (1) You must have a competent person determine the feasibility of providing fall protection for persons erecting or dismantling supported scaffolds.

((•)) (2) You must provide fall protection if the installation and use of fall protection is:

((–)) (a) Feasible; ((~~AND~~

~~–~~)) and

(b) Does **not** create a greater hazard.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40012 Meet these requirements when moving mobile scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure, before a scaffold is moved, that employees on the scaffold are made aware of the move.

((•)) (2) You must apply manual force being used to move a scaffold:

((–)) (a) As close to the base as practicable; ((~~AND~~

~~–~~)) and

(b) Within five feet (1.5 m) of the supporting surface.

((•)) (3) You must make sure power systems used to propel mobile scaffolds have been designed for such use.

((•)) (4) You must make sure forklifts, trucks, similar motor vehicles, or add-on motors are not used to propel scaffolds unless the scaffold has been designed to be used with that type of propulsion system.

((•)) (5) You must stabilize scaffolds to prevent tipping when they're being moved.

((•)) (6) You must make sure a scaffold is not moved with employees riding on it unless all of the following are met:

((–)) (a) The surface on which the scaffold is being moved is:

((■)) (i) Within three degrees of level; ((~~AND~~

■)) and

(ii) Free of pits, holes, and obstructions;

((–)) (b) No employee is on any part of the scaffold which extends out beyond the wheels, casters, or other supports;

((–)) (c) Outrigger frames, when used, are installed on both sides of the scaffold;

((–)) (d) The power system, if used:

((■)) (i) Applies the propelling force directly to the wheels; ((~~AND~~

■)) and

(ii) Produces a speed of one foot per second (.3 mps) or less;

((–)) (e) The height of the scaffold:

((■)) (i) Is not more than two times the least base dimension; ((~~OR~~

■)) or

(ii) The scaffold is designed and constructed to meet or exceed nationally recognized stability test requirements, such as those listed in ANSI/SIA A92.5, Boom-Supported Elevating Work Platforms, and ANSI/SIA A92.6, Self-Propelled Elevating Work Platforms.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40014 Meet these requirements when using bricklayers' square scaffolds (squares). ((~~You must:~~

~~•~~)) (1) You must reinforce wood scaffolds with gussets on both sides of each corner.

((~~•~~)) (2) You must make sure diagonal braces are installed:

((–)) (a) On all sides of each square;

((–)) (b) Between squares on the front and back sides of the scaffold;

((–)) (c) Extending from the bottom of each square to the top of the next square.

((~~•~~)) (3) Make sure scaffolds meet all of the following:

((–)) (a) Are no more than three tiers high;

((–)) (b) Are constructed and arranged so that each square rests directly above another square;

((–)) (c) The upper tiers:

((■)) (i) Stand on a continuous row of planks laid across the next lower tier; ((~~AND~~

■)) and

(ii) Are nailed down or otherwise secured to prevent displacement.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40018 Meet these requirements when using fabricated frame scaffolds (tubular welded frame scaffolds). ((~~You must:~~

~~•~~)) (1) You must make sure scaffolds over one hundred twenty-five feet (38.0 m) high above their base plates are:

((–)) (a) Designed by a registered professional engineer; ((~~AND~~

–)) and

(b) Constructed and loaded as specified in the design.

((~~•~~)) (2) You must brace frames and panels using crossbraces, horizontal braces, diagonal braces, or a combination thereof to secure vertical members together laterally.

((~~•~~)) (3) You must make sure the length of the crossbraces will:

((–)) (a) Automatically square and align the vertical members; ((~~AND~~

–)) and

(b) Make the scaffold plumb, level, and square.

((~~•~~)) (4) You must secure all brace connections.

((~~•~~)) (5) You must join frames and panels together vertically by using one of the following:

((–)) (a) Coupling pins;

((–)) (b) Stacking pins;

((–)) (c) Equivalent means.

((~~•~~)) (6) You must use pins or other equivalent means to lock scaffold frames or panels together vertically where uplift may occur.

((~~•~~)) (7) You must make sure brackets used to support cantilevered loads are all of the following:

((–)) (a) Seated with side-brackets parallel to the frames and end-brackets at ninety degrees to the frames;

((–)) (b) Not bent or twisted from these positions;

((–)) (c) Used only to support persons.

((~~Exemption:~~)) **EXEMPTION:** Brackets may be used to support cantilevered loads other than personnel if the scaffold has been:

((~~•~~)) 1. Designed for other loads by a qualified engineer; ((~~AND~~)) and

((~~•~~)) 2. Built to withstand the tipping forces caused by those loads.

((~~You must:~~

~~•~~)) (8) You must leave existing platforms undisturbed until new frames have been set in place and braced, then move the platforms to the next level.

AMENDATORY SECTION (Amending WSR 13-04-073, filed 2/4/13, effective 4/1/13)

WAC 296-874-40020 Meet these requirements when using integral prefabricated scaffold access frames. ((~~You must:~~

~~•~~)) (1) You must make sure integral prefabricated scaffold access frames meet all of the following:

((–)) (a) Have been specifically designed and constructed to be used as ladder rungs;

((–)) (b) Have a rung length of at least eight inches (20 cm);

((–)) (c) Have a maximum spacing between rungs of sixteen and three quarters inches (43 cm);

((–)) (d) Are uniformly spaced within each frame section;

((–)) (e) Have rest platforms at least every twenty feet (6.1 m) on all supported scaffolds more than twenty-four feet (7.3 m) high.

Note: Nonuniform rung spacing caused by joining end frames together is allowed, provided the resulting spacing does not exceed sixteen and three quarters inches (43 cm).

((~~You must:~~

~~•~~)) (2) You must make sure, when panels with rungs that are less than eleven and one-half inches long are used as work platforms, that employees use either:

((–)) (a) A positioning device; ((~~OR~~

–)) or

(b) A personal fall arrest system.

Reference: ((~~•~~)) 1. For personal fall arrest system requirements in this chapter, go to WAC 296-874-20058.
((~~•~~)) 2. For construction activities, go to Part C-1, in safety standards for construction work, chapter 296-155 WAC.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40022 Meet these requirements when using form scaffolds and carpenter's bracket scaffolds. ((~~You must:~~

~~•~~)) (1) You must secure folding-type metal brackets that have been extended for use, with:

((–)) (a) Bolts; ((~~OR~~

–)) or

(b) Locking-type pins.

((~~•~~)) (2) You must make sure wooden-bracket form scaffolds are an integral part of the form panel.

((~~•~~)) (3) You must attach each bracket, other than those for wooden bracket-form scaffolds, to the supporting formwork or structure by using one or more of the following:

((–)) (a) Nails;

((–)) (b) A metal stud attachment device;

((–)) (c) Welding;

((–)) (d) Hooking over a secured structural supporting member, with the form wales either:

((■)) (i) Bolted to the form; ((~~OR~~

■)) or

(ii) Secured by snap ties or tie bolts extending through the form and securely anchored.

((–)) (e) For carpenters' bracket scaffolds only, using a bolt extending through to the opposite side of the structure's wall.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40024 Meet these requirements when using horse scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure horse scaffolds are not constructed or arranged higher than two tiers or ten feet (3.0 m), whichever is less.

((~~•~~)) (2) You must do all of the following if horses are arranged in tiers:

((–)) (a) Place each horse directly over the horse in the tier below;

((–)) (b) Nail down or otherwise secure the legs of each horse to prevent displacement;

((–)) (c) Crossbrace each tier.

AMENDATORY SECTION (Amending WSR 06-16-020, filed 7/24/06, effective 12/1/06)

WAC 296-874-40026 Meet these requirements when using ladder jack scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure the platform height is not higher than twenty feet (6.1 m).

((~~•~~)) (2) You must make sure ladder jacks are designed and constructed so they rest:

((~~–~~)) (a) On the side rails and ladder rungs together; ((~~OR~~

~~–~~)) or

(b) Only on the rungs.

((~~•~~)) (3) You must make sure ladder jacks that rest on rungs only have a bearing area that includes a length of at least ten inches (25.4 cm) on each rung.

((~~•~~)) (4) You must make sure ladders used to support ladder jacks are:

((~~–~~)) (a) Type I (two hundred fifty pound rated capacity) or Type IA (300 pound rated capacity); ((~~AND~~

~~–~~)) and

(b) Are placed, fastened, or equipped with devices to prevent slipping.

Note: Ladders with a duty rating or weight capacity greater than a Type I ladder (250 pounds) satisfy the requirement to use a Type I or Type IA ladder.

((~~You must:~~

~~•~~)) (5) You must make sure job-made ladders are not used to support ladder jack scaffolds.

((~~•~~)) (6) You must make sure scaffold platforms are not bridged together.

Reference: ((~~•~~)) 1. There are specific fall protection requirements for employees using ladder jack scaffolds. Go to WAC 296-874-20056.
((~~•~~)) 2. Requirements for portable and fixed ladders are found in chapter 296-876 WAC, Ladders, portable and fixed.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40028 Meet these requirements when using outrigger scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure outrigger scaffolds and scaffold components are:

((~~–~~)) (a) Designed by a registered professional engineer; ((~~AND~~

~~–~~)) and

(b) Constructed and loaded as specified in the design.

((~~•~~)) (2) You must make sure the part of the outrigger beam from the fulcrum point to the inboard end (farthest point of anchorage) is at least one and one-half times longer than the part from fulcrum point to the outboard end (the platform side).

((~~•~~)) (3) You must place I-beam or channel shaped outrigger beams so that the web section is vertical.

((~~•~~)) (4) You must make sure the fulcrum point of outrigger beams rests on secure bearings at least six inches (15.2 cm) in each horizontal dimension.

((~~•~~)) (5) You must make sure outrigger beams are:

((~~–~~)) (a) Secured in place to prevent movement; ((~~AND~~

–)) and
(b) Securely braced at the fulcrum point against tipping.
((•)) (6) You must securely anchor the inboard ends of outrigger beams by using one or both of the following:
((–)) (a) Braced struts bearing against sills that are in contact with the overhead beams or ceiling; ((~~OR~~
–)) or
(b) Tension members secured to the floor joists below.
((•)) (7) You must securely brace the entire supporting structure to prevent any horizontal movement.
((•)) (8) You must nail, bolt, or otherwise secure platform units to the outriggers to prevent platform displacement. Platform units must extend to within three inches of the building wall.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40030 Meet these requirements when using pole scaffolds. ((~~You must:~~
~~•~~)) (1) You must make sure pole scaffolds over sixty feet high are:
((–)) (a) Designed by a registered professional engineer; ((~~AND~~
–)) and
(b) Constructed and loaded as specified in the design.
((•)) (2) You must leave existing platforms undisturbed until new bearers have been set in place and braced before moving the platforms to the new level.
((•)) (3) You must install bracing on double-pole scaffolds as follows:
((–)) (a) Crossbracing between the inner and outer sets of poles;
((–)) (b) Diagonal bracing in both directions across the entire outside face of the scaffold;
((–)) (c) Diagonal bracing in both directions across the entire inside face of scaffolds that are used to support loads equivalent to a uniformly distributed load of fifty pounds (222 kg) or more per square foot (929 square cm).
((•)) (4) You must install diagonal bracing on single pole scaffolds in both directions across the entire outside face of the scaffold.
((•)) (5) You must make sure runners meet all of the following:
((–)) (a) Are installed on edge;
((–)) (b) Extend over a minimum of two poles;
((–)) (c) Are supported by bearing blocks securely attached to the poles.
((•)) (6) You must make sure bearers are:
((–)) (a) Installed on edge; ((~~AND~~
–)) and
(b) Extend a minimum of three inches (7.6 cm) over the outside edges of runners.
((•)) (7) You must make sure runners, bearers, and braces are not spliced between poles.
((•)) (8) You must make sure wood poles that are spliced together meet both of the following:
((–)) (a) The ends of the poles at the splice:

((■)) (i) Are square; ((~~AND~~
■)) and
(ii) The upper section rests squarely on the lower section.
((–)) (b) Wood splice plates are provided that meet all of the following:
((■)) (i) Are installed on at least two adjacent sides;
((■)) (ii) Extend at least two feet (0.6 m) on either side of the splice;
((■)) (iii) Overlap the abutted ends equally;
((■)) (iv) Have the same cross-sectional areas as the pole.

Note: Splice plates of material other than wood may be used if they are of equivalent strength.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40032 Meet these requirements when using pump jack scaffolds. ((~~You must:~~
~~•~~)) (1) You must make sure pump jack brackets, braces, and accessories are made from metal plates and angles.
((~~•~~)) (2) You must make sure pump jack brackets have two positive gripping mechanisms to prevent any failure or slippage.
((~~•~~)) (3) You must secure poles to the structure using rigid triangular bracing or the equivalent located at all of the following:
((–)) (a) Top;
((–)) (b) Bottom;
((–)) (c) Other points on the pole as necessary.
((~~•~~)) (4) You must do both of the following when the pump jack has to pass bracing that's already installed:
((–)) (a) Install an additional brace approximately four feet (1.2 m) above the brace to be passed((~~;~~)).
((–)) (b) Leave it in place until:
((■)) (i) The pump jack has been moved; ((~~AND~~
■)) and
(ii) The original brace is reinstalled.
((~~•~~)) (5) You must make sure work benches are not used as scaffold platforms.

Note: A work bench may be used as a toprail only if it meets the toprail requirements in Make sure guardrail systems meet these requirements, WAC 296-874-20064.

((~~You must:~~
~~•~~)) (6) You must make sure wood poles used with pump jack scaffolds are:
((–)) (a) Straight grained; ((~~AND~~
–)) and
(b) Free of shakes, large loose or dead knots, and other defects which might impair strength.
((~~•~~)) (7) You must make sure wood poles that are constructed of two continuous lengths are joined together with the seam parallel to the bracket.
((~~•~~)) (8) You must install a mending plate at all splices to develop the full strength of the member when splicing two by fours together to make a pole.

AMENDATORY SECTION (Amending WSR 13-04-073, filed 2/4/13, effective 4/1/13)

WAC 296-874-40034 Meet these requirements when using repair bracket scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure brackets are all of the following:

((–)) (a) Secured in place by at least one wire rope that's at least one-half inch (1.27 cm) in diameter;

((–)) (b) Attached to the securing wire rope by a positive locking device, or equivalent, that will prevent the bracket from being unintentionally detached from the rope;

((–)) (c) Provided with a shoe, heel block, foot, or a combination that:

((■)) (i) Is located at the contact point between the supporting structure and the bottom of the bracket; ((~~AND~~

■)) and

(ii) Will prevent lateral movement of the bracket.

((~~•~~)) (2) You must secure the platforms to the brackets in a way that prevents:

((–)) (a) The platforms from separating from the brackets; ((~~AND~~

–)) and

(b) The platforms or brackets from moving on a completed scaffold.

((~~•~~)) (3) You must make sure wire rope placed around the structure to provide a safe anchorage for personal fall arrest systems used by employees erecting or dismantling scaffolds:

((–)) (a) Is at least five-sixteenths inch (0.8 cm) in diameter;

((–)) (b) Provides an anchorage that meets the requirements of WAC 296-874-20058((~~.~~));

((■)) (c) For construction activities, go to Part C-1, in the safety standards for construction work, chapter 296-155 WAC.

((~~•~~)) (4) You must make sure each wire rope used for securing brackets in place or as an anchorage for personal fall arrest systems is all of the following:

((–)) (a) Protected from damage due to contact with edges, corners, protrusions, or other parts of the supporting structure or scaffold components;

((–)) (b) Tensioned by a turnbuckle or equivalent means. Turnbuckles must be:

((■)) (i) At least one inch (2.54 cm) in diameter; ((~~AND~~

■)) and

(ii) Connected to the other end of its rope by an eye splice thimble that's sized appropriate to the turnbuckle.

((–)) (c) **Not** used with U-bolt wire rope clips.

((~~•~~)) (5) You must make sure materials are not dropped to the outside of the supporting structure.

((~~•~~)) (6) You must erect the scaffold by progressing around the structure in only one direction.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40036 Meet these requirements when using roof bracket scaffolds. ((~~You must:~~

~~•~~)) You must make sure scaffold brackets meet all of the following:

((~~–~~)) (1) Are constructed to fit the pitch of the roof;

((~~–~~)) (2) Provide a level support for the platform;

((~~–~~)) (3) Are anchored in place by nails.

Note: If it's not practical to use nails to anchor brackets, secure them in place with first grade manila rope of at least three-quarters inch (1.9 cm) diameter, or equivalent.

AMENDATORY SECTION (Amending WSR 06-16-020, filed 7/24/06, effective 12/1/06)

WAC 296-874-40038 Meet these requirements when using step, platform and trestle ladder scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure ladders used to support step, platform, and trestle ladder scaffolds are:

((~~–~~)) (a) Type I (250 pound rated capacity) or Type IA (300 pound rated capacity); ((~~AND~~

~~–~~)) and

(b) Placed, fastened, or equipped with devices to prevent slipping.

Note: Ladders with a duty rating or weight capacity greater than a Type I ladder (250 pounds) satisfy the requirement to use a Type I or Type IA ladder.

((~~You must:~~

~~•~~)) (2) You must make sure job-made ladders are not used to support step, platform, and trestle ladder scaffolds.

Reference: ((~~•~~)) 1. There are specific fall protection requirements for employees using ladder jack scaffolds. Go to WAC 296-874-20056.
((~~•~~)) 2. Requirements for portable and fixed ladders are found in chapter 296-876 WAC, Ladders, portable and fixed.

((~~You must:~~

~~•~~)) (3) You must make sure scaffold platforms are not placed higher than the second highest rung or step of the ladder supporting the platform.

((~~•~~)) (4) You must make sure scaffold platforms are not bridged together.

AMENDATORY SECTION (Amending WSR 07-17-026, filed 8/7/07, effective 10/6/07)

WAC 296-874-40040 Meet these requirements when using tube and coupler scaffolds. ((~~You must:~~

~~•~~)) (1) You must make sure tube and coupler scaffolds over one hundred twenty-five feet high are:

((~~–~~)) (a) Designed by a registered professional engineer; ((~~AND~~

~~–~~)) and

(b) Constructed and loaded as specified in the design.

((•)) (2) You must leave existing platforms undisturbed until new bearers have been set in place and braced before moving the platforms to the new level.

((•)) (3) You must install crossbracing across the width of the scaffold that meets all of the following:

((–)) (a) Bracing is installed at:

((■)) (i) Each end of the scaffold; ((~~AND~~ ■)) and

(ii) At least at every third set of posts horizontally and every fourth runner vertically.

((–)) (b) Bracing extends diagonally from the:

((■)) (i) Outer posts or runners upwards to the next inner posts or runners; ((~~AND~~ ■)) and

(ii) Inner posts or runners upwards to the next outer posts or runners.

((•)) (4) You must install building ties:

((–)) (a) At the bearer levels between the crossbracing; ((~~AND~~ –)) and

(b) At locations specified in WAC 296-874-40004.

((•)) (5) You must install longitudinal bracing on straight run scaffolds as follows:

((–)) (a) Diagonally in both directions across the inner and outer rows of posts;

((–)) (b) From the base of the end posts upward to the top of the scaffold at approximately a forty-five degree angle;

((–)) (c) As close as possible to the intersection of the bearer and post or runner and post;

((–)) (d) If the scaffold is longer than it is tall, repeat the bracing beginning at every fifth post;

((–)) (e) If the scaffold is taller than its length, install the bracing:

((■)) (i) From the base of the end posts upward to the opposite end posts; ((~~AND~~ ■)) and

(ii) In alternating directions until reaching the top of the scaffold.

((•)) (6) You must attach bracing to the runners as close to the post as possible, if bracing can't be attached to the post.

((•)) (7) You must make sure bearers meet all of the following:

((–)) (a) Are installed transversely between posts;

((–)) (b) If the bearer is coupled to the post, have the inboard coupler bear directly on the runner coupler;

((–)) (c) If the bearer is coupled to the runners, have the couplers as close to the posts as possible;

((–)) (d) Extend bearers beyond the posts and runners;

((–)) (e) Provide full contact with the coupler;

((–)) (f) The bottom bearers are located as close to the base as possible.

((•)) (8) You must make sure runners meet all of the following:

((–)) (a) Are installed along the length of the scaffold;

((–)) (b) Are located on both the inside and outside posts at the same height;

((–)) (c) Are interlocked on straight runs to form continuous lengths and are coupled to each post;

((–)) (d) The bottom runners are located as close to the base as possible.

Note: Tube and coupler guardrails and midrails installed on outside posts can be used in lieu of outside runners.

((~~You must:~~

~~•~~)) (9) You must make sure couplers are made of a structural metal, such as drop-forged steel, malleable iron, or structural grade aluminum.

((~~•~~)) (10) You must prohibit using couplers made of gray cast iron.

AMENDATORY SECTION (Amending WSR 05-01-054, filed 12/7/04, effective 3/1/05)

WAC 296-874-40042 Meet these requirements when using window jack scaffolds. ((~~You must:~~

~~•~~)) You must make sure window jack scaffolds meet all of the following:

((–)) (1) Are securely attached to the window opening;

((–)) (2) Are used for working only at the window opening the jack is placed through;

((–)) (3) Are not used:

((■)) (a) To support planks placed between one window jack and another; ((~~OR~~

■)) or

(b) As any other element of scaffolding.

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 296-874-500 Definitions.