Health & Safety Standard

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1.11	Re-issued for 3-year review cycle. No changes

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1 Purpose

The purpose of this standard is to establish clear requirements for the safe and efficient selection, operation and maintenance of hand and power tools.

2 Application

This standard applies to all Cenovus personnel and Suppliers working on Cenovus sites who use hand or power tools to accomplish their tasks. Any site level or Supplier programs shall meet or exceed the minimum requirements outlined in this standard.

3 Requirements

3.1 General requirements

3.1.1 Tools

The following tool requirements shall be followed:

- only use tools for the purpose in which the tools were designed, and as specified per the manufacturer
- non-engineered and home-made tools are not permitted on Cenovus worksites
- hand-held power tools shall be equipped with controls requiring constant hand or finger pressure to operate them, or shall be equipped with friction or equivalent safety devices
- trigger locks shall not be used
- do not remove or alter safety devices, guards, or tools
- keep cords and hoses away from access and egress paths
- power tools should be de-energized when left unattended or no longer in use

3.1.2 Clothing

The following clothing requirements shall be followed:

- do not wear loose-fitting articles of clothing or accessories (jewelry, etc.) that may become entangled when working around rotating equipment
- secure long hair close to the head and out of the face
- as determined by a hazard assessment, wear appropriate personal protective equipment (PPE) for tool being used

3.1.3 Manufacturer's specifications

Operate, maintain, and discard all hand and power tools in accordance with manufacturer's specifications. Follow site-specific procedures when they exceed manufacturer's specifications.

Only use accessories designed for a specific tool as per the original equipment manufacturer (OEM) or with written approval by a professional engineer.

3.2 Hand and power tool use

3.2.1 Selection

Tools are designed to make work easier, but often introduce applied hazards that must be assessed and controlled. Supervisors and workers shall ensure workers are instructed in the potential hazards and safe use of hand and power tools prior to operating the tool.

Hazards can be eliminated or reduced by switching out certain tools for safer ones. For example, by replacing a heavy-duty manual torque wrench with a hydraulic torque wrench. However, hydraulic tools come with other applied hazards such as high-pressure hoses.

Ensure that the selected tool is the correct tool for the task being performed. For example, do not use a screwdriver as a pry tool.

3.2.2 Inspection

All tools used by workers require a pre-use inspection and shall be in suitable condition for the work application. Many power tools require documented inspections that shall be recorded and available at the worksite.

Supervisors shall ensure completion of tool inspections and keep records to ensure damaged and defective tools are not used, are tagged out of service, and repaired by a competent person or replaced as necessary.

3.2.3 Power supply

Use the original equipment manufacturer (OEM) recommended size, gauge, and end connector type of extension cord for line power tools. Workers shall ensure that:

- corded electrical tools have a grounded, 3-wire cord and plug, excluding double insulated tools
- On/Off switches for power tools are functional and positioned in a manner that is easily accessible by the operator
- ground fault circuit interrupters (GFCIs) are used and tested in the supply circuit to power tools used outside and in damp conditions

3.2.4 Maintenance

Supervisors shall employ a method of tool maintenance to be applied by all workers, whether Cenovus or a service provider. Workers shall ensure that a power tool is disconnected from its power source before changing accessories such as blades, wheels, and bits. Workers are responsible to identify defective tools and follow the defective tool process at their worksite.

Maintain, repair, and store tools as follows:

- maintenance records shall be kept for all active power tools
- maintain tools in good conditions: sharp, clean, oiled, and free from defect
- chisels, punches, hammers, screwdrivers, etc., should have tips properly dressed
- replace cracked and/or splintered handles
- clean and repair tools prior to properly storing them

- proper storage methods vary depending on the tool, weather, and operating conditions
- do not place unguarded cutting tools in a drawer
- store knives and chisels in their scabbards
- tool repair shall be performed by competent personnel, using OEM parts or equivalent

3.2.5 Disposal

Once a tool has been identified as unserviceable or permanently defective, it shall be removed from service, tagged “Defective” and destroyed if possible.

Tools that have been discarded shall remain discarded. Workers shall not be allowed to take discarded tools home for personal use.

3.2.6 Ergonomics

Prolonged use of hand and power tools can increase the probability of illnesses and injuries such as Carpal Tunnel Syndrome and Vibration White Finger (VWF). Some general ergonomic considerations are:

- hold the tool close to the body and do not overreach
- keep good balance and proper footing to better control the tool
- use the lowest setting possible to complete the task safely and reduce tool vibration at the source
- limit the use of power tools with vibration
- use of anti-vibration gloves

3.2.7 Tool use in classified areas

Non-sparking tools offer a form of spark prevention in classified areas and may have to be dressed frequently. For non-sparking tools to perform as intended, comply with the following:

- tools shall be kept clean and free from ferrous or other contaminants which may hamper the non-sparking properties
- do not use non-sparking hand tools in direct contact with acetylene, which may form explosive acetylides especially in the presence of moisture
- ensure that tools are inspected and in good condition prior to use
- assess each situation carefully and use the most appropriate tool for the hazards present

Ensure the following when electrical power tools must be used in classified areas:

- verify that all electrical equipment, including tools, are approved for the hazardous location
- using electrical tools in a classified area is classified as hot work
- consider using hand tools or non-electrical tools in hazardous areas

3.3 Specific tool requirements

3.3.1 Mechanical advantage tools (snipes & cheater bars)

Tools used to obtain the mechanical advantage necessary to safely make or break a connection shall meet the following requirements:

- safely perform the function it is intended or designed for
- have adequate strength for its intended purpose
- be free from obvious defects
- be engineered for use as a mechanical advantage tool compatible with the tool being used (ex. Engineered wrench extensions)

NOTE: Non-engineered/manufactured mechanical advantage tools are prohibited from all Cenovus worksites.

3.3.2 Fixed and handheld grinders

The following requirements apply to using grinders:

- eye and face protection shall be used
- where required, respiratory protection shall be used
- grinder discs, buffers, and stones shall be used only for their designed application and rated speeds
- ensure the grinder disc speed is compatible with the grinder revolutions per minute (RPM)
- maximum grinder RPM must be visibly marked on the tool
- fixed grinder stones are to be properly dressed
- fixed grinders, including their stands, must be secured to prevent movement
- fixed grinders shall have a tool rest installed that meets the following conditions:
  - attached securely to the fixed grinder
  - set at or above the horizontal centre line of the wheel
  - shall not be adjusted while the grinder is in motion
- the sides of an abrasive wheel shall not be used for grinding
- the grinder shall be de-energized when changing a grinder accessory
- keep combustible materials out of the reach of sparks from the grinding wheel
- grinders shall have OEM guard installed
- operation of any grinder or spark producing tool in a classified area shall be considered hot work
- objects being ground shall be secured so they are unable to unintentionally move

Sparks from grinders can travel more than ten metres. Combustible materials, flammable vapors, and debris can be readily ignited by a grinder spark or hot metal. Spark control strategies include hoarding, fire blankets, and watering down or wetting surfaces.

3.3.3 Saws

The following requirements apply to using chainsaws:

- chainsaws shall be:
  - equipped with an effective chain brake, or a chain and bar that are designed to minimize the possibility of a kickback
  - designed, constructed, and maintained so the chain stops when the engine is idling
  - maintained in a safe operating condition, including the engine, bar, chain, brake, and safeguards
- do not:
  - adjust the chain while the chainsaw's motor is idling
  - operate the chainsaw at a height above the worker's shoulder level
- while operating a chainsaw:
  - engage the chain brake while walking with the engine running
  - hold the saw firmly in both hands
  - wear appropriate PPE, to include leg protection such as chainsaw chaps or pants; cut-resistant footwear; eye and face protection; hearing protection

The following requirements apply to using saws:

- discard any saw blade that develops a crack unless a competent person repairs the blade
- discarded saw blades shall be disposed in an appropriate bin or container
- saw blades shall be appropriate for the product being cut and at the rated speed
- OEM guards shall be in-place and functional
- only used on a stable secure surface
- portable hand-operated circular saws shall be equipped with a safeguard that will automatically cover the exposed part of the blade during use, and the entire blade when the saw is not is use

3.3.4 Knives and cutting tools

The following requirements apply to using knives and other cutting tools:

- knives and cutting tools shall be stored with the blades protected or retracted
- retract knife blades as much as practicable prior to use
- retractable knives shall only be used as a tool of last resort
- do not alter or remove any safety features of a knife or cutting tool
- immediately discard tools with defective safety features
- use a stable surface when cutting objects
- do not use any part of the body as a surface when cutting objects
- choose the most appropriate cutting tool for the specific task
- cut with the blade edge away from your body, keeping all body parts out of the line of travel
- do not carry unguarded knives or cutting tools in a pocket or tool bag
- only use sharp blades; dull or rusty blades require more force and therefore are more likely to cause injuries
- wear cut resistant gloves to mitigate the risk of cutting your hands

3.3.5 Wrenches and sockets

The following requirements apply to using wrenches and sockets:

- use the correct type and size of wrench or socket for the job
- do not use pipe wrenches for tightening nuts and bolts
- use metric tools for metric fasteners and standard tools for standard fasteners
- the correct size wrench is preferred over an adjustable wrench:
  - crescent, spanner, or thumb wrenches are prone to slip and can damage fasteners and lead to a potential injury
  - combination wrenches are preferred over adjustable wrenches
- use properly calibrated torque wrenches for tightening fasteners and fittings
- inspect and clean the jaws of pipe wrenches frequently and replace when worn
- maintain line of sight and voice communication on two-person bolting jobs
- do not double wrench (i.e., wrench on wrench)
- do not hammer on a wrench that is not designed for that application (striking wrench)
- when an adjustable wrench must be used, position the wrench so that the applied force does not spread the jaws apart

The following should be considered to prevent common injuries associated with the use of wrenches and sockets:

- adjust body position and footing to prevent a fall or other injury should the wrench slip or fail
- never put hands or fingers into pinch points when using a wrench or socket

3.3.6 Powder actuated tools

Powder actuated tools operate like loaded guns and shall be handled with the same respect and safety precautions. The following requirements apply to using powder actuated tools:

- powder actuated tools used in classified areas shall be considered hot work
- only competent personnel shall operate a powder actuated tool
- tools shall be loaded just prior to use; they are not to be loaded and left unattended
- tools and cartridges shall be stored in their proper locked container
- verify that the tool is unloaded prior to storage
- tools must never be used in a classified area
- never point powder actuated tools at anyone
- carry cartridges in the manufacturer’s package, never loose or in a pocket
- the operator must always wear proper PPE while operating a powder actuated tool
- tools must be operated and maintained in accordance with manufacturer’s specifications and local legislation requirements

In the event of a misfire:

- hold the tool in the fixing position for at least 15 seconds
- keep the tool pointed in a direction that will not cause injury to you or others
- keep misfired cartridges in a water-filled container until they are properly disposed of

3.3.7 Fluid based high-pressure tools

3.3.7.1 Fluid based high-pressure tool hazards

All workers using fluid based high-pressure tools (including but not limited to high-pressure water blasting, grease gun, pressurized paint sprayer) shall be aware of the following hazards:

- physical hazards involving high-pressure tools include, but are not limited to, pressure, chemical and thermal energy from fluid injection into the body
- chemical hazards involve the material being removed by the high-pressure tools being a hazardous material as follows:
  - these materials may be corrosive, a skin irritant, or toxic through skin absorption, inhalation, or ingestion
  - the friction and atomization generated during high-pressure operations may increase these hazards
- atmospheric or ambient hazards include, but are not limited to:
  - toxic mists, oxygen deficient or enriched environments (in confined spaces), or flammable environments
  - the friction and atomization generated during high-pressure operations may increase these hazards

3.3.7.2 Injection Injuries

Due to the potential severe nature of injuries associated with fluid based high-pressure injections the following process must be adhered to:

If a person suffers an injection injury by a fluid based high-pressure tool, the injury may appear insignificant and may give little indication of the extent of the injury beneath the skin or the damage to deeper tissues. Unknown quantities of fluid may have punctured the skin, flesh and organs through a very small hole that may not even bleed.

Note: Even an injection of a small amount of fluid, may result in life-threatening complications

Attending physicians who have never diagnosed injection injuries from high-pressure tools may not discover the extent of the internal injuries through normal triage, which may result in delayed treatment. Such a delay can prolong recovery and, in some cases, result in life threatening complications.

In the event of a fluid based high-pressure injection injury, the injured worker must be transported to the nearest hospital regardless of the perceived severity of the injury.

3.3.7.3 Personal protective equipment

The following PPE shall be worn during fluid based high-pressure tool operations:

- chemical protective coveralls appropriate for the materials to be encountered
- fire-retardant coveralls or fire-retardant chemical protective outer wear as per site requirements
- chemical protective gloves appropriate for the materials to be encountered
- respiratory protection appropriate for the materials to be encountered.

- head protection
- hearing protection
- face shield, splash goggles, or full-face respiratory protection appropriate for the materials to be encountered
- steel toed, steel shank rubber work boots with metatarsal guards rated for the anticipated pressures of the operation
- steel or equivalent shin guards rated for the anticipated pressures of the operation

3.3.7.4 Precautions

When using fluid based high-pressure tools, the following precautions shall apply:

- Determine maximum allowable pressure prior to start-up
- plan all high-pressure work activity to be completed from a stable work surface
- lay out any hoses to prevent trip hazards and to prevent damage to the hose
- all hoses will have whip checks fitted prior to operation
- inspect all high-pressure tools prior to use
- during the pre-use inspection of high-pressure hoses, perform a visual inspection only to check for leaks; do not use a body part to check for leaks as this can cause a high-pressure injection injury
- if a leak is found, depressurize the system before making any repairs
- only competent and qualified personnel shall conduct repairs of high-pressure tools
- never point the nozzle of a high-pressure tool at yourself or another person
- operate all high-pressure tools in accordance with manufacturer's specifications and local jurisdictional requirements

3.3.8 Hydraulic tools

Ensure the following when hydraulic tools are used:

- all hydraulic tools must adhere to manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, wrenches and other fittings
- inspect hydraulic tools before and after each use, including but not be limited to:
  - overall condition and cleanliness of the fittings
  - body condition
  - pump condition
  - check the hose for frays, cuts, cracks, etc.
- be mindful of hand and body positioning to eliminate pinch and crush points
- avoid exceeding torque values when using hydraulic tools
- all lines will have whip checks fitted prior to operation
- workers shall not place hands or other body parts in the line of fire while operating hydraulic tools

3.3.9 Pneumatic tools

The following pneumatic (air) tool requirements shall be followed:

- pneumatic tools shall be supplied by a compressed air source
- all air lines over a 1" diameter with quick connect couplers shall have whip checks installed prior to use
- pneumatic tools are to be used and maintained in compliance with manufactures guidelines

- all air lines with Chicago style air fittings shall have safety pins and whip checks fitted prior to equipment operation
- never direct compressed air at yourself or another person
- compressed air shall not be used to blow off dust or other debris from clothing
- never carry a pneumatic tool by an attached air line
- verify an air line is isolated and depressurized prior to connecting and disconnecting a tool
- the pneumatic tool operator shall verify the air supply pressure is within the recommended air pressure range for the tool
- air hoses shall be placed and maintained to prevent tripping hazards

NOTE: Over-pressurizing any component in a pneumatic system may cause damage to the equipment or cause personal injury to the operator or others in the area.

3.3.10 Electrical power/extension cords

Ensure the following when extension cords are used:

- all power cords must be properly rated and maintained in accordance with the manufacturer's specifications:
  - North America - UL and/or CSA
  - Asia PAC – As per local jurisdictional requirements
- verify that all electrical equipment, including tools, are approved for a hazardous location
- cover or elevate power cords and cables to protect them from damage and to eliminate tripping hazards
- keep power cords away from heat, water, oil, sharp edges, and moving parts
- use plug-in GFCI-equipped extension cords in wet environments where GFCI plugs are not available
- use only approved extension cords with the proper wire size for the length of the cord and power requirements of the electrical tool to prevent the cord from overheating
- do not overload power outlets
- electrical cords shall be sized according to the required amperage for the tool and service
- power cords must not be tied in knots

3.3.11 Battery powered tools

Ensure the following when battery powered tools are used:

- discard exhausted batteries in an appropriate bin or container
- do not use counterfeit batteries, only OEM batteries may be used
- batteries should not be charged in classified area's
- the battery must be certified in the jurisdiction in which it is being used
- disconnect the battery when cleaning, servicing, or installing bits, blades, or discs
- if a battery smokes, smolders, or catches fire during charging, proceed as follows:
  1. Unplug the charger.
  2. Smother the battery with an ABC extinguisher or water.
  3. Discard the battery appropriately.
- store batteries in a clean dry location out of direct sunlight and within the battery temperature limits
- follow OEM requirements for proper charging of batteries

- never carry unplugged batteries in the same case or container as loose conductive materials such as nails or staples, which could cause sparking between negative and positive contacts

3.3.12 Drill Press

The following drill press requirements shall be followed:

- a drill chuck guard, shield or barrier is in place and functioning properly before starting work
- all guards, shields or barriers must remain in place when the drill press is on and running
- the drill press has a start/stop button within reach of the operator
- the drill press has a working emergency stop button (e-stop)
- a clamp or drill vise is used to secure material to the drill press. Never attempt to hand hold material while drilling
- do not place your hands under the material being drilled
- do not attempt to stop the rotation of the chuck and spindle with your hand
- the drill bit or cutting tool is locked securely in the chuck, and ensure the chuck key is removed before starting the drill press
- lubricate the drill bit when drilling metal
- keep drill bits clean and sharp. Dull drill bits are a common cause of breakage
- if a drill bit binds, turn off the drill press, lock out the drill press, and then carefully turn the drill chuck backwards by hand to free the drill bit
- do not leave a drill press running unattended

4 References

Table 1: Internal governing references

Document title or link	Relevance
Hot Work Standard	Cenovus Hot Work standard
Personal Protective Equipment Standard	Cenovus PPE standard

Table 2: Other references

Document title or link	Relevance
ANSI B7.1-2010	Safety requirements for the use, care, and protection of abrasive wheels
Canadian Centre for Occupational Health and Safety	Abrasive wheels, chainsaws, hand tools, hand tool ergonomics, powered hand tools
ASTM E1575	Standard practice for pressure water cleaning and cutting
OSHA 1910.212	OSHA standard for Machinery and Machine Guarding

Part 22 OHS Code	Alberta OHS Code
Part VIII Machinery and Equipment	Newfoundland and Labrador OHS Act
Part 12 Tools, Machinery and Equipment	British Columbia OHS Regulation

5 Revision history

Table 3: Revision history

Version	Date	Description
1.00	September 17, 2024	Issued for use
1.10	February 11, 2025	Added section 3.3.12 Drill Press requirements, provided clarification to section 3.1.3 to define written approval by a professional engineer, updated external references for OSHA, Alberta OHS, Newfoundland OHS and British Columbia OHS
1.11	August 18, 2025	Re-issued for 3-year review cycle. No changes