Hand and Power Tools

Procedure

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Authority

	Title	Name	Date
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History

Revision	Date	Amended By (Name)	Details of Amendment
0.0	06/06/2025	Anthony Gollan	New Document

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1 Purpose

The purpose of this Procedure is to provide the mandatory requirements for the use of Hand and Power Tools when working on sites.

2 Scope

This procedure applies to all SCEE workers, contractors, subcontractors, visitors or members of the public working on or visiting sites under the control of SCEE.

3 Definitions

Term	Definition
AS	Australian Standard
Competent Person	A person who has, through a combination of training, education and experience, acquired knowledge and skills enabling that person to perform a specified task correctly.
JHA	Job Hazard Analysis
LEL	Lower Explosion Limit
SCEE	SCEE Electrical Pty Ltd
SWMS	Safe Work Method Statement
Worker	A person is a worker if the person carries out work in any capacity including work as — a) an employee; or b) a contractor or subcontractor; or c) an employee of a contractor or subcontractor; or d) an employee of a labour hire company who has been assigned to work in the person's business or undertaking; or e) an outworker; or f) an apprentice or trainee; or g) a student gaining work experience; or h) a volunteer; or i) a person of a prescribed class.

4 Responsibilities

Role	Responsibility
Project Manager	The Project Manager shall be responsible for ensuring resources are available to enable the implementation of this procedure and for the accountability of person's responsibilities as defined.
Site Manager	Ensure full compliance with the requirements of this procedure Ensure the effective implementation of this procedure.
Worker	Workers shall comply at all times with the procedure
HSE Advisor	Audit and monitor compliance with this procedure. Assist in undertaking inspections in accordance with this procedure
Supervisor	Ensure the application of this procedure. Conduct workplace Inspections in accordance with this procedure within their areas of responsibility.

5 Flowchart

N/A

6 Hand and Power Tools – Minimum Requirements

6.1 Tool Selection

When selecting tools, consideration must be given to choosing the most suitable equipment for the task. This will ensure hazard exposure during use is minimised.

Tools must only be used for their intended purpose. Modification of tools is not permitted unless written authorisation is received from the manufacturer. Change management must be implemented before any modifications are made to tools.

Tools for customised applications must be engineered and fabricated using certified drawings.

Guards and safety devices must be in place and function as designed whenever the tool is in use.

SCEE shall ensure its Banned and Restricted Tools Lists and Clients list be communicated and made available to all work areas.

6.2 Risk Assessment

Explosive power tools and tools with open blades must not be used when there is a safer alternative available. If no alternative exists, a risk assessment must be completed for all tasks requiring the use of these tools.

This will ensure the appropriate tool is selected and adequate controls are identified.

The risk assessment must be reviewed by the Project Manager or delegate prior to authorising use of the tool. Authorisation must be provided by the Project Manager in writing.

When undertaking tasks requiring the use of an authorised explosive power tool or open blade tool, a SWMS or JHA must be developed and signed off by the Project Manager or delegate.

6.3 Inspection

All hand and power tools shall be inspected by the worker prior to and after use. Where defects are identified, the supervisor must be notified immediately, and the tool taken out of service. An Out of Service tag must be placed on the tool until repaired or replaced.

All tools, including those kept in toolboxes and warehouses / tool stores must be inspected regularly, as per the manufacturer's instructions. Inspections should be carried out by a suitably competent person.

Records of testing, calibration and inspection must be maintained.

6.4 Hand Tools

Iron or steel tools may produce sparks that can be an ignition source around flammable objects. Where this hazard exists, spark-resistant tools made of non-ferrous materials should be used. This includes areas where flammable gases, highly volatile liquids and other explosive substances are stored or used.

Man-made composite or fibre reinforced handles should be used due to their superior strength, impact absorption and comfort. Wooden handles should be avoided wherever possible.

Handles shall be checked prior to commencing any task to ensure they are secure, tightly fit and wedges are in place where required.

Hand tools that are used in the standing position, such as shovels and spades, must be provided with handles that reduce the potential for musculoskeletal injuries, such as back strain.

Files must never be used without a handle attached.

Crowbars must be designed so that they cannot slip through flooring from one level to another.

Screwdrivers must not be used as substitutes for other tools such as hammers, punches, chisels, etc. When using screwdrivers, the work piece must be secure and both hands used to safely handle the too.

6.5 Hammers

Only soft faced hammers will be used when striking hardened surfaces or equipment. Hard faced hammers may only be used when covered by a SWMS or JHA that has been approved by the Supervisor. Approved controls must be implemented prior to use.

Hammers, drifts, wedges and punches that become damaged or mushroomed shall either be dressed in accordance with the manufacturer's instructions / recommendations, or discarded.

6.6 Open Blade Cutting Tools (Knives)

Open blade tools must only be used where no safer device is suitable for the task. Wherever possible, specialised cutting tools shall be used instead of open blade tools.

Cutting tools must be kept sharp and where possible, provided with protective covers.

Open blade cutting tools must be retained by the supervisor or in a managed tool store when not in use.

Cut resistant PPE, such as gloves and arm chaps, shall be worn whenever open blade cutting tools are used.

6.7 Power Tools

Prior to purchasing power tools, health impacts must be considered and any required controls implemented.

Where power tools have been identified as producing medium to high levels of vibration or noise, additional controls must be implemented. Examples of controls include anti-vibration gloves and reduced exposure times.

The recommended exposure limit for noise and / or vibration should be clearly labelled on each power tool.

An approved SWMS or JHA must be in place prior to using a power tool.

Intrinsically safe tools shall be used where flammable gases, highly volatile liquids or explosive substances are used / stored.

All power tools must be inspected and tagged by a competent person at quarterly intervals.

Handheld power tools should be equipped with a constant pressure switch or control that shuts off the power when pressure on the switch is released.

All energy sources that are potentially hazardous to workers shall be isolated before any work is carried out on tooling.

6.8 Electrical Safety

Electrical connections used with power tools must be suitable for the type of tool, application and work environment, e.g., sealed enclosure to be used in wet / damp area.

All power tools must be used with a correctly earthed residual current device (RCD).

Power tools and equipment should be fitted with braided electrical leads prior to use in operating areas.

Power tools and electrical leads must be inspected prior to use. If damage is identified during inspection, the equipment or lead must be tagged Out of Service until repaired or replaced.

Handheld power tools should be either double-insulated or grounded to earth.

6.9 Concrete and Masonry Cutting Equipment

Whenever selecting concrete and masonry cutting equipment, the following must be considered:

- Equipment that has a low vibration rate or does not require manual support must be used in preference to handheld tools.
- Handheld tools should be well balanced, as light as possible, capable of being held in the left or right hand, and able to be used by people with varying hand size.
- Vibration-absorbing handles must be installed wherever possible.

- Handles with smooth, even surfaces should be installed to assist with distribution of the gripping force.

Blades for concrete and masonry cutting equipment must be selected for the material being cut and the cooling method used.

Exposure to dust and noise generated through the use of masonry cutting equipment shall be minimised through the use of engineering controls, such as water suppression or dust extraction.

Powered concrete and masonry cutting equipment shall not be used above the height of the operator's shoulder.

Inverted cutting (cutting the underside of a slab, floor or overhang) must never be performed with handheld concrete or masonry cutting equipment.

Concrete or masonry cutting equipment must be used in preference to handheld jackhammers wherever possible.

Preventive controls must be implemented prior to commencing work. Examples include the use of support under work pieces to minimise the risk of equipment kickback.

6.10 Rotary Abrasive Tools

All handheld rotary abrasive tools fitted with abrasive wheels must include the following safety features:

- Dead-man type operating switch.
- Disc / wheel guard where the wheel diameter is greater than 50mm.
- Anti-vibration handles. Work requiring handles be removed must be supported by a JHA approved by the supervisor (only applicable when using discs with diameter of 5-inches or less).
- Restart protection.
- Electronic or mechanical overload protection.
- Data plate, including operating speed.

Additional recommended safety features include:

- Disc braking system.
- Soft start power control.

The use of grinders with 7-inch cutting discs is prohibited.

The use of rotary tools with 7-inch grinding, buffing or sanding discs is only permitted if:

- A JHA approved by the supervisor is complete prior to the work commencing.
- Handles are not removed.

The use of 9-inch grinders is prohibited.

Double eye protection must be worn during operation.

Angle grinders should be fitted with flexible cords having a maximum length of 2 metres.

Angle grinders should only be used to grinding. Whenever cutting is required, safer alternative tools must be considered.

Prior to commencing any cutting activity, consideration must be given to objects and hazards in the line of fire, and behind the object being cut.

A test run of the tool must be performed before use. If there is any abnormal vibration or wobbling that could indicate poor installation, damage or a poorly balanced abrasive device, the tool must be shut down immediately and tagged Out of Service.

Only components that are compatible with the speed and size of the tool will be used. Discs, wheels and burrs must be selected in accordance with the work piece material.

If using a battery operated grinder the battery shall be removed before changing the disc.

Only guards that are compatible with the size and design of the tool shall be installed.

Any disc, wheel, burr or component fitted / used with a grinder must be visually inspected for damage prior to use.

Cutting wheels will not be used to grind and must not be subjected to any lateral pressure.

Abrasive discs shall be labelled with the maximum speed and application.

6.10.1 Fixed Abrasive Tools

Fixed abrasive tools, such as bench or pedestal grinders, shall be positioned:

- Away from busy or congested areas.
- Away from flammable materials.
- In a position that minimises the impact of airborne abrasive material on other equipment / workspaces in the area.

Bench and / or pedestal grinders must be fitted with a tool rest. The rest shall be maintained in good condition, and adjusted as close as possible to the wheel with a maximum clearance of 1.5mm. Tool rests will not be fitted to grinders with buffing wheels.

Transparent guards must be fitted to all bench and pedestal grinders, and adjusted to provide protection to the worker whenever the machine is in operation.

Bench and pedestal grinders shall be clearly marked or signposted to indicate the intended application, e.g., hard or soft metals, ceramics, wet or dry applications.

6.11 Gas Heating and Cutting Equipment

All hoses, blowpipes, tips, connections and regulators shall be compatible with the gas and application.

Gas supply hoses must be colour coded to identify the type of gas within the hose:

- Red – Acetylene and other combustible gases, except liquefied petroleum gas (LPG) and methylacetylene-propadiene (MAPP© gas).
- Blue – Oxygen.
- Orange – LPG and MAPP© gas.
- Black – Non-combustible gases (air, nitrogen, carbon dioxide, and argon).

Steel or brass connections and fittings must be used with flammable gas fuels.

Steel hose connections and fittings must not be used with oxygen gas.

Threads and fittings used with flammable gas heating and cutting equipment must not be lubricated and will be kept free from oil or grease.

Pressure regulators must be removed from the gas cylinder whenever cylinders are:

- Not restrained.
- Transported in stillages.
- Manoeuvred by hand, except where secured in a purpose-built trolley.

Cylinder valves must be closed when not in use.

Stored pressure shall only be released from supply lines and equipment when not in use.

Flashback arrestors with integrated check valves must be fitted to the handpiece and regulator of all oxygen and fuel hose lines used for welding, cutting or heating processes.

Flashback arrestors shall be tested annually to the standard specified in AS 4603-1999 Flashback arresters – Safety devices for use with fuel gases and oxygen or compressed air, or replaced within 12-months from the date placed in service.

O-Rings fitted to the regulators and hose connectors shall be replaced annually.

Only non-fuelled ignitors, such as static sparkers or flints, may be used when lighting gas heating and cutting equipment. Cigarette lighters and matches must not be used.

Gas cylinders must be secured at all times, and stored in an upright position (whether empty or not) in a shaded and well ventilated location.

Defective or damaged gauges, hoses or equipment must not be used. Equipment shall be shut down immediately if there is any sign of leakage, fluctuation, starvation of gas supply, or misshapen flame.

Gas heating and cutting equipment must be inspected quarterly and tagged to indicate the inspection validity period.

6.12 Pneumatic Tools

Compressed air supply systems must be inspected quarterly. Inspections will ensure:

- Pressure and air quality is suitable for the equipment being used.
- Connections are fit-for-purpose.
- Excess flow valve shuts off.
- Flexible hoses are free from damage.

Fixed supply systems must be labelled with the safe operating pressure.

Fittings must be made from steel and be compatible with the pressure and flow rating of the installation.

Flexible compressed air lines must be:

- Inspected before use.
- Supported.
- Kept away from walkways.

Airless spray guns that atomise paints and fluids at pressures of 1000psi (6890kPa) or more shall be equipped with a safety switch that prevents unplanned activation.

Compressed air must not be directed to any part of the body or used for cleaning where the health and safety of workers performing the task, or in the area, may be impacted by airborne particles.

A double eye cable sock must be installed on all flexible high pressure pneumatic hoses. The cable sock must be anchored where either two hoses join or where the hose connects with a rigid outlet connection.

All cable socks shall be secured to an anchor point rated to withstand 150% of the total force produced by the maximum pressure rating of the pressure source.

Where the hose diameter is too small to facilitate the installation of a cable sock, a risk assessment shall be conducted to determine the need for alternate controls, such as whip checks.

A safety excess flow valve shall be installed at the source of the air supply to reduce pressure in case of hose failure if the diameter of the air hose is greater than ½-inch (12.7mm).

When the air supply is turned on, the end of the hose must be restrained.

Hoses with MinsupTM fittings must be secured using a safety clip.

Tool attachments must be securely fastened before connecting the tool to the air supply.

Pneumatic tools such as nail guns, rivet guns or staplers shall be equipped with a safety overdrive mechanism to prevent operation away from the striking surface.

6.13 Hydraulic Tools

Fire-resistant hydraulic fluids shall be used in all hydraulic tools and rated to the most extreme operating temperatures to which it will be exposed. Hydraulic tools used on or around energised lines shall use insulating type hydraulic fluid.

The manufacturer's maximum pressure rating must not be exceeded.

Hydraulic hoses must only be manufactured by workers who are trained and deemed competent by the supplier of the hose brand or system.

Hydraulic equipment must be fitted with a suitable pressure gauge or device to prevent over-pressurisation. The safe operating pressure shall be set at the time of equipment being placed in service, and checked before each use.

All hydraulic rams and cylinders must be marked with safe operating limits including:

- Maximum travel.
- Safe working load.
- Safe operating pressure.

The safe operating limits must not be exceeded.

Hydraulic jacks must be indelibly marked (in a prominent place) with the safe working load and travel limit (where applicable).

Equipment lifted by jacks must be supported by load rated stands once at the required height.

Jacking plates must be placed below the jack when working on uneven or soft ground.

Jacks must be inspected quarterly, and before each use. Jacks must be maintained in line with the manufacturer's specifications.

Inspections must be performed after a jack has been used outside its designated operating environment, or subjected to shock or excessive loads.

6.14 Liquid Fuel-Powered Tools

When purchasing liquid fuel-powered tools, consideration must be given to the benefits of different fuel types, such as fumes, noise during operation, and effects of ignition sources.

Before operating liquid fuel-powered tools, an assessment must be conducted to ensure the work area is adequately ventilated.

Tools should be refuelled only when the engine has been stopped and cooled. A dry chemical fire extinguisher must be available for use when refuelling.

Fuel tanks shall be filled to a maximum of 90% of the total tank capacity. The fuel tank cap must have appropriate seals installed and be secured before tools are used.

6.15 Explosive Power Tools

Before commencing work using explosive power tools, danger tape must be used to demarcate the area and a sign stating 'DANGER – EXPLOSIVE POWER TOOL IN USE' must be erected.

The sign must be:

- No less than 500mm x 300mm.
- Compliant with AS 1319-1994 Safety signs for the occupational environment.

Explosive power tools must not be used near other tasks in progress.

Explosive power tools shall not be used where flammable vapour / materials and excessive heat may be present.

Explosive charges may act as a source of ignition when discharge.

Where there is a risk of a fastener passing completely through the fastening surface, ensure the area behind the surface is clear of workers.

Explosive power tools must not be stored loaded. Cartridges must be stored in a locked metal cabinet.

Only explosive power cartridges compatible both with the tool and the fastening surface will be used.

Before use, all explosive power tools must be inspected to ensure safety devices are operating correctly, and that there is no damage to the tool.

Explosive power tools must be cleaned and lubricated at least once a day while in use.

Explosive power tools must be dismantled and examined for defects by a competent person in line with the manufacturer's specifications. The inspection must be conducted at least once a week while the tool is in regular use.

Explosive power tools must be returned to a certified repairer and overhauled annually. Records of the overhaul must be retained and stored on file.

Safety interlocks must be in place to prevent accidental firing of the tool.

The tool must not be able to operate until it is pressed against the work surface with a force of not less than 2.2kg greater than the total weight of the tool.

Explosive power tools must not be stored where they can be accessed by unauthorised persons. Tools must be stored separately from the power cartridges.

6.16 Training

Training requirements shall be identified and completed in compliance with site and client requirements for workers required to utilise hand and power tool.

7 References

Documents, both internal and external, that are referenced within the content of this procedure, including Australian and International Standards and legislation.

Document ID	Document Title
AS 1319-1994	Safety Sign for the Occupational Environment
AS 2865-2009	Confined Spaces

8 Related Documents

Related documents are those that have a relationship with this document, for example if this was the Operational Risk Management procedure related documents would include the work instruction to complete a JHA, the JHA template, Take 5 work instruction and booklet, etc.

Document ID	Document Title
	WA Work Health and Safety Act 2020
	Qld Work Health and Safety Act 2011
SCEE-BS-HS-PRO-0001	Job Hazard Analysis Procedure
SCEE-BS-HS-TEM-0008	JHA Template
SCEE-BS-HS-TEM-0031	Confined Space Entry Permit