1.0 PURPOSE

The purpose of this quality procedure is to establish a set of requirements to ensure the risks of using hand / power tools are mitigated.

2.0 SCOPE

This Quality Procedure applies to Arrium mining employees, contractors and visitors on Arrium Mining leases and Arrium Mining Whyalla sites (Pelletising Plant & Whyalla Port).

3.0 REFERENCES

- Work Health and Safety Act, 2012
- Work Health and Safety Regulations, 2012
- Australian Standards identified in these Regulations and / or any other Australian Standards that may apply as approved codes of practice
- Electrical Safety Manual OST-OHS-ELEC-PRO-001
- QP29.13 – Risk Management
- QP29.20 – Personal Protection
- QP75.WHS.PRO.001 – Prohibited Items
- REG75.WHS.PRO.001 – Prohibited Items Register
4.0 DEFINITIONS

- **Hand Tool**  A tool held in the hand and operated without electricity or other power.
- **Power Tool**  A tool that is powered by an external source, such as electricity or compressed air
- **Prohibited Items**  Items which are banned from Arrium sites (total ban or site specific)

5.0 SAFE USE OF HANDS TOOLS

Hand tools include a wide variety of non-powered devices such as spanners & shifters, pliers, hammers, and screwdrivers. These tools may seem harmless, but they are the cause of many injuries.

The two most common hazards associated with the use of hand tools are misuse and improper maintenance.

- Misuse occurs when a hand tool is used for something other than its intended purpose. (An example would be using a screwdriver as a chisel. This may cause the tip to break and strike someone).
- Improper maintenance allows hand tools to deteriorate into an unsafe condition. (Examples would include cracked wooden handles that allow the tool head to fly off or mushroomed heads that can shatter upon impact).

Ensure QP75.WHS.PRO.001 – Prohibited and Restricted Items and REG75.WHS.PRO.001 is reviewed to ensure approved hand tools are utilised on Arrium sites.

5.1 All Hand Tools

- Assess the risks before using risk management tools i.e. S.T.A.R Cards.
- Ensure you are properly trained to safely use the tool.
- Ensure you have the correct PPE for the task, some tools require different PPE to others.
- If the tool has guarding or other safety devices they shall be fitted as per the manufacturers specifications
- Inspect the tool for damage and or wear before use.
- Specially designed tools may be needed in hazardous environments. (Always use non-sparking tools in the presence of flammable vapours or dusts. Insulated tools with appropriate ratings must be used for electrical work).
- Never modify or alter a tool from its original manufacturers design.
- Never use homemade tools unless authorised to do so (check the prohibited items register).
- Never use a tool that is prohibited from site (check the prohibited items register).
- If in doubt stop the task and seek further advice before recommencing.

5.2 Knives

5.2.1 Standard

- Always wear cut resistant gloves
- Ensure the object to be cut is stable and not likely to be dislodged when pressure is applied
- Cut away from the body and never place the object to be cut on your body
- Knife blades are to be kept sharp and clean at all times and damaged blades are to be replaced
5.2.2 Principles for Selection of the right Cutting Tool / Knife

- As a first preference use shears, enclosed carton cutters, wire strippers or scissors
- As a last resort a self-retracting knife can be used however a written SSoW/JSA is required to be signed by the leader
- Fixed blade knives are restricted, unless they have been risk assessed and approved for use by your supervisor and the use of cut resistant gloves are mandatory
- Flexible segmented blades (or knives / blades with flexible snap-off blades) are prohibited

5.2.3 Examples Shears / Cutters / Knives

- As a first preference use shears, enclosed carton cutters, wire strippers or scissors

5.3 Spanners & Shifters

- Choose a tool that properly fits the fastener that is to be turned. Using the correct size reduces the chances of slippage.
- Do not use a length of pipe or other extension to improve the leverage of a spanner. Manufacturers design wrenches so that the amount of leverage obtained with the handle is the maximum safe application. Avoid placing body parts in the line of fire in case of unexpected movement.
- Use socket wrenches for hard-to-reach areas.
- Always try to pull on a spanner (instead of pushing) in case the fastener suddenly loosens.
- Inspect spanners/shifters & sockets periodically for damage such as cracking, severe wear, or distortion.

5.4 Pliers

- Do not increase the handle length of pliers to gain more leverage. Use a larger pair of pliers or bolt cutters.
- Do not substitute pliers for a wrench when turning nuts and bolts. Pliers cannot grip these items properly and will slip.
- Never use pliers as a hammer or hammer on the handles. Such abuse is likely to result in cracks or breaks.
- Cut hardened wire only with pliers designed for that purpose.
- Always cut at right angles. Never rock from side to side or bend the wire back and forth against the cutting edges.

5.5 Hammers

- Do not use a hammer if the handle is damaged or loose.
- Never weld, heat, or regrind a hammer head.
- Remove from service any hammer exhibiting signs of excessive wear such as cracks, chips, or a mushroomed head.
- Match the proper type of hammer to the job it is designed to perform.
- Sledge hammers with hardened heads are prohibited (refer to prohibited items register)
- Do not strike the surface at an angle. The hammer face should contact the striking surface squarely. Glancing blows made with a hammer often lead to injury.
5.6 Screwdrivers

- Never use a screwdriver as a pry bar, chisel, punch, stirrer, or scraper.
- Always use a screwdriver tip that properly fits the slot of the screw.
- Throw away screwdrivers with broken or worn handles.
- Use magnetic or screw-holding screwdrivers to start fasteners in tight areas.
- Never use pliers on a screwdriver for extra leverage. Only use a spanner on screwdrivers specifically designed to accept them.
- For electrical work specialised insulated screwdrivers shall be used.

6.0 SAFE USE OF POWER TOOLS

All power tools can be dangerous if both general and tool specific safety instructions are not followed carefully. General safety instructions apply to all electric (corded and cordless), pneumatic & hydraulic power tools.

6.1 All Power Tools

- Assess the risks before using tools i.e. S.T.A.R Cards.
- Ensure you are properly trained and authorised to safely use the power tool. Always read and understand the tool’s operator’s manual, tool markings and the instructions packaged with the accessory before starting any work.
- Ensure you have the correct PPE for the task, some tools require different PPE to others.
- If the power tool has guarding or other safety devices they shall be fitted as per the manufacturers specifications.
- Inspect the power tool for damage and or wear before use.
- Horseplay with any tool is strictly prohibited.
- Do not operate power tools in explosive atmospheres, near flammable liquids, gases, or dust.
- Wait for the tool to stop spinning before placing it on the ground or bench.
- Always switch off the tool and remove the plug before making adjustments.
- Remove adjusting keys and spanners before operating.
- Never modify or alter a power tool from its original manufacturers design.
- Never attempt to repair a faulty power tool unless authorised to do so.
- Never use a tool that is prohibited from site (check the prohibited items register).
- Take all damage power tools out of service by attaching a warning tag.
- If in doubt stop the task and seek further advice before recommencing.
- Explosive Power Tools are prohibited.

6.2 Pneumatic & Hydraulic Power Tools

- Ensure the tool is well lubricated as per the manufacturer’s recommendations.
- Never alter, repair or modify a pneumatic or Hydraulic power tool.
- Check the tool, the hoses and the compressor/hydraulic pumps prior to use.
- Use safety clips or other safety devices on compressed air hoses.
- Never use any other gasses in the place of compressed air.
- Ensure that any hydraulic pumps are filled with the correct fluids and has sufficient fluid levels.
- Ensure that over pressurisation warning devices are functional.
- Always isolate air compressors and hydraulic pumps, ensuring that the pressure has been released or controlled before making adjustments or tool changes.
6.3 Electric Power Tools (corded and cordless)

- Wired electric and cordless power tools shall be tested and tagged and only used on a RCD protected circuit.
- The use of extension leads will be used in accordance with the requirements set out in the Arrium/OneSteel Electrical Safety Manual
- Do not use AC tools on a DC power supply (vice-versa)
- Ensure the correct current rated circuit is used (never modify a 15amp plug to fit into a 10amp socket)
- Do not use power tools in the rain or wet environments, approval from supervisor required for some tools such as cordless power tools
- Do not carry a power tool by its power lead
- Store cordless battery packs away from other metal objects like paper clips, coins, keys, nails, screws, or other small metal objects.
- Never overcharge battery packs – follow manufacturer’s instructions
- Never disassemble battery packs – follow manufacturer’s instructions

6.4 Angle Grinders

- Angle grinders can present risks such as kickback, and discs can shatter becoming projectiles.

6.4.1 Standard

- Documented safe work instruction for tasks using angle grinders are to be developed.
- Manufacturer’s safety instructions should be followed where not in conflict with safe work instructions.
- Prior to the use of a cutting disk safer alternatives are to be considered such as a plasma cutter, reciprocating saw, double blade saw, or oxy cutting. If no safe viable alternative exists, a risk assessment shall be completed and signed off by the Supervisor or delegate to ensure the task method is safe.
- Angle grinders larger than five inch (5” or 125mm) in Elevated Work Platforms are prohibited
- Nine inch (9” or 225mm) angle grinders are prohibited
- Use of Arbortech or other saw type cutting blades are prohibited
- Hot work permit requirements much be adhered to.

6.4.2 Mandatory Grinder attributes

- Manufacturer supplied guard fitted and secure.
- Manufacturer supplied side handle fitted
- Braking function (disc rotation is arrested immediately when trigger is released).
- Soft start for all 240v angle grinders (not required battery powered)
- Restart protection (grinder cannot start when power supply is reconnected without trigger being reactivated).
- ‘Kickback’ cut out function.
- Deadman type (double action) trigger switch.
- Suitable models of angle grinders that meet the above standards are:
  - Bosch 15-125 CIEP 240 V
  - Milwaukee M18CAG125XPDB-0 M18 Fuel Battery powered
  - Metabo 5” WEPBA 17-125
  - Hitachi 5” G13YC2
  - Hitachi 5” G13VA(H1)
- Angle grinder either battery powered or inline RCD protection
6.4.3 Operation

Prior to Use
- Verify handles are fitted and use two hands are used to operate the grinder. Handles not to be removed unless authorised by an authorised competent Trade Supervisor/Team Leader.
- Fit the right sized disc that has a hole matching the spindle flange.
- Use the tightening tool supplied by the grinder manufacturer to tighten the disc. The use of another device (i.e. punch and hammer) can damage the disc and grinder.
- Check the correct flange and locking nut is in place for the type of disc being used.
- Check there are no defects or damage to the disc and it is the correct speed for the grinder.
- Use the correct grinding disc for grinder, the task being performed and for the material it is being applied to, i.e. the right size; has a maximum speed (RPM) that is higher than the maximum speed on the grinder; a ‘grinding’ wheel for grinding, and a ‘cutting’ wheel for cutting (and not vice versa); disc appropriate for metal versus other material.

When in Use
- Allow grinder to run-up to operating speed before applying to job.
- Use minimum pressure, to avoid digging in and kickback.
- Never bump the grinder onto the object, or let the disc hit any other object while grinding.
- Have work piece held firmly (e.g. bench vice, or as part of later item).
- Hold the angle grinder with both hands ensuring the side handle is inserted on the side of the unit that gives the best grip for the work activity.
- Keep the grinding disc at a 15 to 30 degree angle to the object.
- Consider ergonomics - have job at waist height where possible, and have comfortable stance with feet apart so you feel well-balanced, and ensure you have a clear view of the job.
- Never use a grinder between your legs while sitting on the floor.
- Stop at regular intervals for a short break to rest your hands and arms.
- Never put a grinder down until the disc stops rotating.
- Remove the plug from the power point before changing discs.
- Ensure damaged discs are thrown out and not re-used.
- When not in use, disconnect the power and place the grinder on a bench with the disc facing upwards.

6.4.4 PPE

Personal protective equipment (PPE) is to be worn at all times when operating an angle grinder as per QP29.20 – Personal Equipment.