

**Risk
Rating**



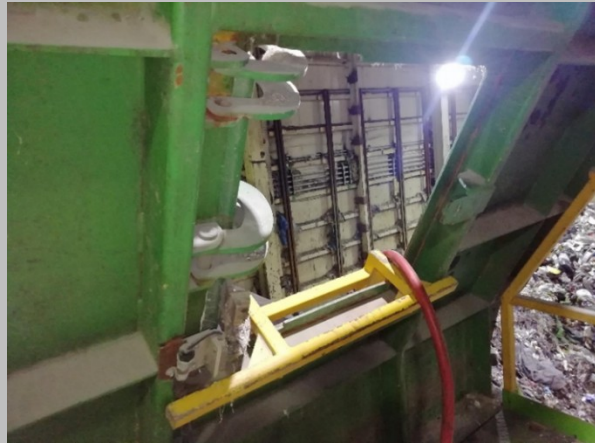
Risk Assessment & Method Statement

Task/ activity: Metso Shredder access for essential maintenance tasks

Task/ activity description:

Metso Shredder access for cleaning and maintenance purposes such as:

- Hard facing of the cutting edges
- Cleaning and basic maintenance such as grinding rough edges
- Clearing blockages



Likely to be effected: Operatives, External Maintenance Contractors, Visitors

Risk Scoring = multiply severity by probability SxP=R

Severity	Probability	Risk Category
5 Fatality or disaster	5 Highly likely	
4 Major injury, damage or loss	4 Very likely	High = 15-25
3 Reportable injury or occurrence	3 Likely	Medium = 9-14
2 Minor injury, less than 3 days lost time or minimal loss	2 Unlikely	Low = 1-8
1 Minor injury, no lost time or damage	1 Very unlikely	

Hazard	Control measures to be taken to reduce risk	Scoring		Risk rating
		S	P	
Contact with moving machinery. • Death • Major accident	• People involved in maintenance work must be fully familiar with the Plant and must have sufficient job specific knowledge about design and purposes of machinery and tools they use. • All maintenance works to be	5	2	10

	undertaken only by fully trained, competent, and authorised employees. • All machinery and tools to be operated in compliance with manufacturers' recommendations and safety guidance provided by the Company. • "LoToTo. procedure must be followed when task requires direct access to the machinery. (<i>Risk Assessments carried out</i>) • Where there is High Risk Work, work must be supervised with communication maintained using two-way radios • All electrical tools to be inspected regularly and maintained in good working order. All defects must be reported immediately to Supervisor or Health and Safety Manager and faulty equipment must not be used. • All dangerous parts of machinery guarded to manufacturers' standards. • Only electrical tools with CE Declaration of Conformity mark to be used. • Non-essential staff to be excluded from working areas to minimize exposure to risk.			
Accidental start of machine • Fatality • Major injury	• "Lock out, tag out and try out" procedure must be followed when task requires direct access to the machinery. (<i>Risk Assessments carried out</i>) • All maintenance work must be properly planned with plant manager/ supervisor and risk assessments carried out. • Maintenance work must be carried out by trained competent and personnel only. • Machine must be purged of any residual charge. • Communication must be maintained via two-way radio.	5	2	10
Complacency • Not following safe system	• Only trained, competent and authorised operatives are permitted to carry out task specific maintenance works. • Training will be supported through the	4	2	8

of work	regular delivery of Toolbox Talks, supervision, and performance assessment. Training should emphasise the importance of always following safe systems of work and not taking shortcuts.			
Fire/ Explosion - Fatality - Major injury	“Hot Work Permit” must be obtained before any hot works starts. - Adequate provision of firefighting equipment available. All maintenance staff trained in fire safety procedures and familiar with locations of fire extinguishers and other firefighting equipment. - All staff familiar with fire evacuation routes. Evacuation plan displayed and accessible for all employees and visitors. Fire routes must be always clear and free from obstacles. - The shredder should be cleared of rubbish/debris before beginning hot works. - Trained Fire Wardens always available on Site. - All Fires, no matter how small, must be reported to Supervisor and Health & Safety Manager. - Two-way radios must be used to alert of a fire. - Operatives must not put themselves in danger, always proceed to the safest exit.	5	2	10
Heat (Contact with hot elements of welding equipment) - Burns - Major injury	- Operatives wear PPE specifically designed for welding. Face shield is provided. PPE is mandatory and non-compliance is not tolerated. - PPE must be certified to the approved standard and deemed fit for use. - Only trained, competent and authorised persons to carry out welding. - Trained first aiders on-site, first aid kits available and maintained as necessary. - All accidents and near misses must be	4	2	8

	reported to the health and safety department through iAuditor. - Operatives must complete pre-use checks on equipment so as to identify any damage or defect. - Operative to check that the correct items of equipment are available for the gases being used, all necessary safety devices are fitted and that the equipment is undamaged. - Damaged or defect equipment must not be used. - Damaged or defective hose or hose assemblies should only be replaced or repaired by a competent person. - Damaged or defected equipment must be reported to the supervisor. - Training records to be maintained and refresher training organised where necessary.			
Welding arc light/UV radiation 'Arc eye/welders flash' injury - Moderate to major injury - Eye irritation	- Appropriate PPE must be worn (welding visor). This must be worn correctly and should be maintained well. - Operatives to receive training and information on the proper use and maintenance of PPE. - Any damaged PPE must not be used, alternative must be sought prior to commencing hot works. - Others in the area to be made aware of the works, so that they can avoid the area. - Where possible, plan for welding to occur when there are fewer people in the workshop. - If reasonably practicable, following assessment of welding frequency, mobile red protective curtains to be provided reduce the impact on others in the workshop.	4	2	8
Lack of information, instruction	- Only trained, competent and authorised operatives are permitted to carry out task specific maintenance works. - Full training to be provided to	4	2	8

training and supervision	operatives. This is to include familiarisation with this RA SSOW. • Training will be supported through the regular delivery of Toolbox Talks, supervision, and performance assessment. • Training is to emphasise the importance of always following safe systems of work and not taking shortcuts.			
Electricity • Electrocution • Electric shock	• All electrical appliances to be checked before use. Pre-use checks to be carried out before work begins. • All relevant machinery and circuits to be isolated/locked-off throughout the job and checked for stored energy. • Good general housekeeping to be maintained to ensure that the work area is kept free of water, trailing leads etc. • Care to be given when routing cables so as not to cause damage cables, or trip hazards.	4	2	8
Confined spaces • Loss of consciousness due to lack of oxygen or build up of hazardous fumes	• Works to be planned and carried out under supervision with risk assessments and permits to work completed by the operative and supervisor/ manager. • Two-way radio is to be maintained for the duration of the works. • Works to be carried out by competent personnel only. • Works' area is monitored via CCTV. • Operative must be aware of the content of this assessment. • Operative must wear appropriate RPE.	4	2	8
Noise	• Noise levels are assessed at suitable intervals. • Employees are informed of the noise levels in the plant and the need for personal protective equipment. • PPE is provided and enforceable.	4	2	8

Approval and review

Assessor:	Signature:	Position:	Date:
Wesley Jameson		Health & Safety Manager	Apr 2024
Approved by:	Signature:	Position:	Date:
Joseph Doherty		Chief Executive Officer	Apr 2024
Reviewed on:	Apr 2024	New version number:	4
Date of next review:	Apr 2025, or as an when required		

PPE Requirements

- Hi-vis clothing, 2-way radio, welding visor and gloves, safety boots, ear protection

Method statement

Step 1 – Planning / Communication

- 1.1 Only trained and competent personnel are authorised to preform maintenance on the shredder.
- 1.2 Maintenance work must be properly planned with the plant supervisor/ manager they are to carry out a risk assessment undertaken for the works.
- 1.3 All plant operatives must be informed of the maintenance work via two-way radio.
- 1.4 All maintenance work must be completed in a controlled manner, following the provided safe system of work and implementing the task specific training.

Step 2- Isolation/ Lock out/ Tag out/ Try out



The Hydraulic pumps in the Metso container must be switched off and isolated, as shown. Once isolated and locked out the employee must attempt to start the system to

The operative who has isolated the pumps must then lock out the system using the “locked-out” padlocks.

Step 3 Access gate to the shredder



The access gate to the Metso also contains an interlocked isolation system. The castrol key must be removed from the grey box to the left of the gate. This isolates the shredder; the key must then be placed into the lock at the gate.

Please note- if the gate is opened members of WTE have been contacted.

The only means of access to the Shredder is through the dedicated access hatch.

All power to the shredder is isolated when the access hatch is opened.

Once all means of isolating the system are in place the operative should then attempt to start the machine to ensure it is fully isolated.

The access hatch must remain open for the duration of the works.

Step 4 Access hatch to the shredder



Access ladder is the only accepted means of access, it must be fixed into position before work commences.

The access hatch must remain open for the duration of the work.

The ladder must remain in place for the duration of the work



Step 5 Finishing the maintenance task.

Communication must be maintained using the two-way radio system for the duration of the work.

Please note- only trained and competent personnel are authorised to access the restricted shredder area.

Upon completion of maintenance task, the operative must work back from steps 4 – step 1 to ensure the plant can start back up safely.

Step 4 Egress hatch from shredder –

- **Access ladder to be removed.**
- **Check and assess the area before closing.**
- **Access hatch must closed.**

Step 3 Access gate to the shredder

- **Ensure all work has been removed from the area.**
- **Access gate must be closed and the castral key removed for the locking device of the gate**
- **Castell key must be placed back into the power supply unit- (the grey box to the left of the gate)**

Step 2- Isolation/ Lock out

- **The padlock for the isolation switch of the hydraulic pumps in the power pack container must be removed.**
- **The power supply for the hydraulic pumps must be then switch back on**

Step 1 Communication before starting the plant.

- **All employees must be informed and have confirmed they are safe and understand before starting the plant,**

Types of Planned Maintenance tasks

1. Hard facing of the teeth- Mig welding operation using an inert gas- Argo shield -
2. Basic maintenance- such as grinding off rough edges and removal of debris during planned maintenance inside the hopper.
3. Cleaning and maintenance in the area outside and around the hooper. This is also a planned event.

Unannounced maintenance tasks

Clearing blockages- This unplanned task is where shortcuts could be taken, and fatal mistakes could be made. It is important that all previously identified safety measures are in place before this task can be undertaken.

1. Attempts should be made to clear blockages from the control booth using mechanical means such as running the shaft in reverse and forwards to attempt to dislodge the blockage or by using the crane with grab attachment.
2. If the access hatch must be opened the operative must plan this task with their supervisor/ Manager and follow all LOTOTO steps necessary to ensure the task can be completed safely.

3. Attempts should be, made to clear the blockage using a workpiece without entering the hooper.

Hard-facing

1. Requirements of authorised operatives to carry out the work

- 1.1 Site safety induction.
- 1.2 Internal training including appropriate work shadowing period before the operative is assessed as competent perform this task safely.
- 1.3 Job specific training and review of risk assessments
- 1.4 Welders' competency is assessed by competent third party
- 1.5 Internal one-to-one training on the safe system of work
- 1.6 Supervision
- 1.7 Hot works permits must be completed
- 1.8 Risk assessment undertaken by the operative and supervisor/ Manager

2. Communication and planning

- 2.1 Only trained and competent personnel are authorised to work with welding equipment, or under direct instruction and supervision of a competent person for training purposes
- 2.2 Work area to be cleared before starting work. Care taken to remove any combustible materials and slip, trip and fall hazards must be removed.
- 2.3 Employee's must be aware of the emergency procedures prior to starting work, including means of raising the alarm.
- 2.4 Welding equipment must be inspected before use looking for defects or obvious signs if damage.
- 2.5 Suitable PPE and RPE must be worn. Non-compliance is not tolerated.

3. Pre-Use checks/ Housekeeping

- 3.1 Operative to check that the correct items of equipment are available for the gases being used, all necessary safety devices are fitted and that the equipment is undamaged.
- 3.2 Employee to ensure walkways are kept clear and tidy
- 3.3 Employee to remove any slip, trip and fall hazards from the area before beginning work
- 3.4 Electrical equipment is to be PAT tested regularly
- 3.5 Any damage or defect is to be reported immediately

4. Method of work

- 4.1 Employees are to be suitably trained on the requirements of their job role.
- 4.2 Employees are to be provided with training on emergency procedures.

- 4.3 Operatives are to plan out the work with supervisor/ manager risk assessments are to be completed and hot works permits in place.
- 4.4 All afore mentioned safety devices must be in place in compliance with the lock out, tag out, try out procedures.
- 4.5 Welding apparatus including the inert gas cylinder is to be checked prior to use by a competent person and if any damage or defects are detected the equipment is not to be used.
- 4.6 Once the machine has been safely isolated and tested to ensure it is safe to work with risk assessments and hot works permits completed and supervisor/ fire watch in place the operative is the prepare to carry out the hard facing task.
- 4.7 The operative is then to prepare the surface of the cutting edge using an angle grinder. Essential to ensure the coatings success is the cleanliness of the surface prior to welding. All traces of dirt, grease, oil and paint needs to be removed. In addition, previous hardfacing layers usually need to be removed
- 4.8 Operative to preheat the surface to be welded while hardfacing to avoid cold cracking.
- 4.9 The operative is to restore the original shape of the base metal surface as far as possible.
- 4.10 Establish a buffer layer once restored to its original shape to prevent cracks from travelling from the hardfaced surface deposits into the base metal.
- 4.11 The target dilution should be as low as possible and is controlled using the welding parameters, such as welding speed, current and polarity settings. Parameters should be set to achieve a minimum plate penetration.
- 4.12 One the operative has completed the steps on the exposed part of the cutting edge. The operative is to assess their footing and the position of work equipment and hoses to ensure no entanglement occurs and ensure they are in a safe position prior to turning the shaft using a metal work piece.
- 4.13 The previous steps are to be repeated until the task is complete.
- 4.14 Care is to be taken when removing the work equipment and the operative is to seek assistance where necessary.
- 4.15 All work equipment and hoses are to be inspected upon completion to ensure no damage or defects were incurred during this task.

Emergency Response

Supervisors must be trained, competent first aiders who are trained in the emergency response plans. These response plans should be discussed during the planning and assessment phase of this task including the fire alarm call points etc.

Types of emergency situations

- **Fire/ Explosion**
- **Electric shock**
- **Entrapment**
- **Loss of consciousness through lack of oxygen or increase in temperature.**
- **Medical emergency**

Emergency response procedures

General

1. All operatives/ supervisors must be aware of the emergency contact numbers and to call 999 for assistance immediately.
2. Ensure all safety devices remain in place and only enter the area in compliance with LOTOTO procedures.
3. Emergency evacuation hoods are in place in the control booth in the event of a fire emergency.
4. Trained, competent fire watch must be in place with knowledge of emergency response procedures.

Entrapment

1. In the event a person has become trapped by the shaft, we must not power the machine and must attempt to free the person using a metal work piece and contact emergency services immediately.

Loss of consciousness

1. Works supervisor must remain vigilant and maintain regular communication with the operative
2. Mobile working platform should be in place in case if a need to remove a person in an emergency.