# Mechanical engineering control plan (MECP)

1. **AIM:** The aim of this plan is to provide a system that allows all mobile and fixed plant, including structures, to be purchased, commissioned, maintained, altered and regularly inspected for the life cycle of their application on site. Our MECP will endeavour to adopt all maintenance requirements as specified by the original equipment manufacturer (OEM) and will be performed by persons who are trained in maintenance activities. All maintenance will be recorded to provide a history of work completed and to enable better planning of scheduled maintenance.
2. **WHAT:** The purpose of the MECP is to set out control measures to prevent injury to persons caused by the operation of plant or by working on plant or structures. It is also designed to prevent:

* unintended initiation of explosions
* unintended operation of plant
* unintended release of mechanical energy
* catastrophic failure of plant or structures
* uncontrolled fires being initiated or fuelled by plant
* exposure of persons to toxic or harmful substances.

The MECP extends to all areas of the mining operation and applies to the overall life cycle requirements of the mechanical aspects of plant and structures that are hired, new, existing or second-hand, including plant and structures introduced to site by contractors. The MECP applies to all workers, contractors, designers, manufacturers, importers and suppliers involved with the site in relation to the mechanical aspects of work.

This MECP includes all the pieces of plant recorded in the ‘mobile plant’ and ‘fixed plant’ section of the plant register (Form 10B).

It also includes an initial broad-brush assessment of risks that may be associated with maintenance activities on site (Form 10A). This risk assessment will be completed by the mine manager \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the identified competent mechanical person \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. **WHO:** All workers on site are required to have the necessary skills, training and experience to perform tasks. This equally applies to personnel (employees or contractors) undertaking maintenance tasks and may also include trade qualifications / licenses. Trades and tasks that are commonly and frequently used on the quarry site include:

* electrician (refer also to EECP)
* boilermaker/welder
* mechanical fitter
* diesel fitter/mechanic
* hydraulic fitter
* auto-electrician
* earthmoving tyre fitter
* conveyor belt fitter/splicer
* compressed air service person
* rigger/dogman
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (other)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (other)

The quarry personnel and/or contractors who operate mobile plant and equipment (i.e. heavy earthmoving equipment) must have the applicable class of licence (operator’s ticket) or be otherwise trained and assessed as being competent and be authorised to operate the equipment by the manager or delegate. This assessment process is completed using forms contained in Program 13.

The people responsible for completing maintenance activities are listed on the Maintenance schedule (Form 10B). During the drafting of the MECP, we have identified \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (name, position) as the competent person who will have responsibility for providing mechanical advice and assistance during the development and periodic review of the MECP.

1. **HOW:** The MECP provides guidance on the overall life cycle management strategy and engineering practices to be used to manage plant and structures. Key requirements are identified in each of the life cycle phases for the design, manufacture, installation, commissioning, operation, maintenance (including repair and overhaul), decommissioning and disposal of mechanical aspects of plant and structures.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(name, position) will be responsible for developing a full list of plant and structures on site, known as a plant register (Form 10B). Once the plant register is completed the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (name, position) will then allocate the type of maintenance and the frequency of maintenance to be completed on all plant and structures.

Maintenance will be performed according to the following methods:

Pre-start:

Mobile - (Form 10C) – according to the type of plant

Fixed plant – (Form 10D) - according to the type of plant

Scheduled:

According to the manufacturer’s service manuals or previously established systems (if service manuals are not available).

Service manuals for each piece of plant are available and are located at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Breakdown/defect maintenance:

Based on site operational requirements and the risks associated with the defect at the time of failure. Repairs will be completed according to the manufacturer’s service manuals or previously established systems (if service manuals are not available).

## The lifecycle approach to engineering practices includes:

### Procurement or acquisition:

When considering the purchase, acquisition, or construction of any new items of plant and structures, the performance and maintenance obligations required of that equipment are to be clearly understood by all parties involved. Additionally, the requirements for effectively maintaining the equipment while it is in service should be considered (e.g. safe access for inspections and maintenance tasks). In short, the equipment must be fit-for-purpose.

These procurement obligations should be considered when introducing all types of equipment to site (Form 13C will be used during this process).

* new plant and equipment
* used plant and equipment
* hired plant and equipment
* contractor’s equipment
* workshop and miscellaneous tools.

### Design:

The mechanical aspects of plant and structures will be designed so they are without risks to health and safety to workers throughout the life cycle.

In general, the design of any item of mechanical plant/equipment, or any structure designed specifically for the site, shall comply with all relevant Australian standards (AS), and also comply with any specific safety or design features required under the WHS legislation.

Design of new, or modifications to existing, fixed plant installations requires the designer / supplier to provide all the requisite engineering checks and certifications as part of the scope of supply.

### Manufacture:

The mechanical aspects of plant and structures will be manufactured so they are without risks to health and safety to workers throughout the life cycle.

The manufacturer will:

* manufacture, inspect and test the mechanical aspects of plant and structures having regard to the information provided by the designer
* in consultation with the designer, manage any hazards identified during the manufacture
* comply with legislative guarding, emergency stop, operational controls and warning device requirements
* provide information to the person in control of the plant

### Installation, commissioning and construction:

The risks to health and safety associated with installation, construction and commissioning of plant and structures will be managed in accordance with our Risk management procedures (Program 5).

Installation, construction and commissioning activities will be carried out in accordance with the information provided by the designer, manufacturer, importer or supplier of the plant and structure.

Commissioning records are to be maintained for the life cycle of the plant and structures.

All plant and vehicles will be inspected as they are introduced to site. This can take place in one of two ways.

* Form 13C (SECTION 1) of the Contractor and employee Induction form
* for larger more complex pieces of machinery or where the manager deems necessary, Form 10G of the MECP.

All work will be supervised by a competent mechanical person.

### Operation:

As per other programs in the safety management system, all equipment and mobile plant will only be operated by persons who have been deemed competent to do so.

The MECP requires that all personnel perform the necessary checks (pre-starts) on the equipment and plant that they intend to operate prior to commencing work. Where defects are identified they will be risk rated and reported for rectification.

No plant should be operated where a defect would mean that the plant and equipment could not be operated without a risk to the operator or other persons.

All plant and equipment should only be operated within its designed operating parameters as described in the equipment’s operating manuals.

Any damage to plant or structures will be reported to the manager or delegate and a review of control measures will be conducted to identify remedial actions to be taken.

### Maintenance:

The maintenance of mechanical aspects of plant, equipment and structures will be managed in accordance with the OEM servicing requirements and as recorded in the mechanical plant register and maintenance schedule.

Routine maintenance functions will be carried out by trained site personnel or contractors who have the appropriate competency. Where specialists are required, contractors or OEM service personnel will be utilised to support (in house) resources.

During maintenance of the mechanical aspects of plant, mobile equipment and structures, maintainers are faced with numerous risks. These risks include falls from height, falling objects, lifting loads, confined spaces, pressurised fluids, hot work, uncontrolled release of energy. Generally, these risks are managed through the implementation of site standards, procedures and permits. Our site uses the following

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| --- | --- |
| Procedure/permit name | Reference number |
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[www.safework.nsw.gov.au/\_\_data/assets/pdf\_file/0018/50076/SW08159-Code-of-Practice-Managing-the-risk-of-falls-at-workplaces.pdf](http://www.safework.nsw.gov.au/__data/assets/pdf_file/0018/50076/SW08159-Code-of-Practice-Managing-the-risk-of-falls-at-workplaces.pdf)

www.safeworkaustralia.gov.au/system/files/documents/1702/falling\_objects\_fact\_sheet.pdf

[www.safework.nsw.gov.au/\_\_data/assets/pdf\_file/0015/50073/Confined-spaces-Code-of-Practice.pdf](http://www.safework.nsw.gov.au/__data/assets/pdf_file/0015/50073/Confined-spaces-Code-of-Practice.pdf)

[www.safework.nsw.gov.au/\_\_data/assets/pdf\_file/0019/52156/Managing-risks-of-plant-in-the-workplace-Code-of-practice-July-2014.pdf](http://www.safework.nsw.gov.au/__data/assets/pdf_file/0019/52156/Managing-risks-of-plant-in-the-workplace-Code-of-practice-July-2014.pdf)

[www.safework.nsw.gov.au/\_\_data/assets/pdf\_file/0020/50078/Hazardous-manual-tasks-Code-of-Practice.pdf](http://www.safework.nsw.gov.au/__data/assets/pdf_file/0020/50078/Hazardous-manual-tasks-Code-of-Practice.pdf)

[www.dpi.nsw.gov.au/\_\_data/assets/pdf\_file/0008/254555/swms-manual-handling.pdf](http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0008/254555/swms-manual-handling.pdf)

www.safework.nsw.gov.au/\_\_data/assets/pdf\_file/0019/52156/Managing-risks-of-plant-in-the-workplace-Code-of-practice-July-2014.pdf

#### Routine (scheduled) maintenance activities may include:

* inspection schedules (pre-start, operational, periodic)
* lubrication - greasing and oil make-up/change-out
* replacement of consumables (e.g. screening media, wear liners)
* servicing and/or replacement of mechanical components (e.g. motors, gearboxes, shafts, seals), and other rotating components (e.g. conveyor idlers & pulleys)
* heavy mobile equipment minor servicing.

#### Specialist maintenance activities

Specialist maintenance functions are those that require skills/resources/capabilities beyond those normally available from site operations personnel. Specialist support may be provided from in-house expertise (e.g. workshop, boilermaker, diesel fitter), contractors and OEMs.

#### Specialist maintenance activities may include:

* electrical/electronic/process control - servicing, adjustment, diagnosis, repair and testing
* critical safety systems such as brakes and steering
* high pressure fluid systems - servicing, adjustment, repair and testing
* compressed air systems - servicing, adjustment, repair and testing
* conveyor belting repairs/change-out
* heavy mobile equipment (HME) major servicing (OEM/dealer) and repair
* HME tyre change/repair
* load bearing welding of major structures or structural alterations.

#### Major maintenance activities:

Major maintenance activities are those that require pre-planning and coordination of multiple disciplines/resources/capabilities - beyond those available from site personnel. Specialist support may be provided from in-house expertise, contractors and OEMs. Major maintenance activities may include:

* dismantling/removal or change-out of major fixed plant items or significant components (crushers, screens, processing plants, loading bins).
* major HME component change-out or re-build (engine, transmission replacement).

### Decommissioning:

The risks to health and safety associated with decommissioning of plant and structures will be managed in accordance with our Risk management procedures (Program 5).

### Disposal:

Plant and structures will be disposed of in a manner that does not harm the environment and is economically responsible. Where plant and equipment is on sold, all operating manuals, service manuals, maintenance records and a condition report will be supplied to the purchaser.

### Change management:

No changes, alterations or modifications to plant and structures are to be undertaken without approval from the manager and or senior company management. In some cases, referral to the equipment designer/supplier, or a structural engineer, may be required before undertaking work involving such changes.

In the case of fixed plant and associated equipment, the meaning and context of change includes, but not limited to:

* structural modifications or alterations (e.g. removal of bracing or other members, changing the section of load bearing members, major penetrations, extending landings/walkways/work platforms, increasing spans and effective lengths of load bearing members, etc)
* increasing the applied loadings for which a structure was designed (e.g. installing different equipment with a higher mass or dynamic loading, altering the holding capacity of bins/hoppers/chutes, storage of materials / consumables in excess of the design capacity of the structure)
* removing or modifying pre-existing safeguards
* increasing the length, angle of inclination, drive power &/or capacity (i.e. tph of a fixed conveyor)
* adding to, or otherwise altering, the catwalks and landings installed on a conveyor
* changing the specification &/or sizing of structural fasteners (i.e. bolts)
* replacing worn or corroded structural elements with members having different structural capacity.

For all other plant and equipment, change includes:

* increasing the load-carrying capacity of a machine (e.g. fitting a larger body or implement)
* unauthorised altering of the settings, or working ranges, of operating parameters that relate to the safe operation of the machine
* changing the power source of a machine (e.g. increasing the drive motor sizing);
* overriding or bypassing system alerts/alarms
* removing or modifying pre-existing safeguards
* any alterations to operator protective devices or structures (e.g. ROPS / FOPS)
* changing the type, specification or grade of lubricants or other critical fluids
* for rubber tyred machines – changing the type/specification/rating of tyres.

1. **WHEN:** Maintenance will be conducted on each piece of plant as per the plant register and maintenance schedule (Form 10B). These frequencies are based on information obtained from the respective plant service manuals.

When a new or second-hand piece of equipment is introduced to site \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (nominated person) will use Form 13C as an introduction to site assessment for the plant or equipment to ensure that it meets the site’s minimum mechanical standards.

1. **ACTION:** If, while completing any pre- start checks, something is found not to meet the site’s standards, then the person completing the inspection will record it on (Form 10B or Form 10C) and will notify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (nominated person) of the problem. If the problem is not fixed immediately then the hazard will be recorded in the daily diary or action plan.

Once the action is completed, it will be recorded in the maintenance record (Form 10E) or signed off on the pre-start form as completed and stored in the plant file/record book system.

1. **DOCUMENT CONTROL:** Each piece of mobile plant will have its own plant file/ record book/folder located \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Form 10E).

Pre-start:

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(role)\_\_\_\_ will be responsible for collecting the pre- start maintenance forms and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(role)\_\_\_\_ will be responsible for filing the documents in each plant file / record book.

Scheduled maintenance:

All scheduled maintenance will be recorded in the plant file/record book (e.g. attach completed supplier service sheets, where applicable).

Breakdown maintenance:

All unexpected breakdown maintenance will be recorded on the plant file / record book.

External service provider:

All documentation received during the course of completing service work by external service providers will be recorded in the plant file/record book.

Introduction of plant to site:

All forms (Program 13) used to introduce plant to site will be filed with the other maintenance records or in an individual contractor file.

# Form 10A – MECP self-assessment

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| **Mine:** | | **Date:** |
| **Inspection area:** | | |
| **Mechanical (competent person):** | **Site representative:** | |

| **Category** | **Assessment questions** | **Risk**  **No | Yes** | **Observations – controls**  **(if no, what are you going to do about it?)** |
| --- | --- | --- | --- |
| **Systems** |  |  |  |
| Management | Is there register of mechanical equipment on site? |  |  |
|  | Does the maintenance plan refer to original equipment manufacturers (OEM) requirements and industry guidelines? |  |  |
|  | Has the site used a competent person to assist with the development and periodic review of the MECP? *(qualified engineer or tradesperson)* |  |  |
|  | Does the site have copies of operating and maintenance manuals relating to plant and structures on site? |  |  |
|  | Does your MECP or management structure identify who is in charge of maintenance activities? |  |  |
|  | Does your site have prestart inspection documentation and procedures for inspecting plant? *(mobile & fixed plant & structures)* |  |  |
|  | Do pre-starts identify ‘critical safety items’ (brakes, steering, tyres, warning devices)? |  |  |
|  | Does the site have a defect reporting system that is signed off when defect rectification is completed? *(May be on pre-starts)* |  |  |
|  | Does the site keep a documented history of maintenance records? |  |  |
|  | Does the site perform planned maintenance of plant & equipment? |  |  |
|  | Does the site engage contractors to perform maintenance and if so, have the arrangements been formalised – signed off? |  |  |
|  | Do procedures exist for completing maintenance activities? (SWMS or JSA) |  |  |
|  | Is all new and second-hand plant and equipment inspected to ensure it is ‘fit for purpose’ before it commences work on site? |  |  |
|  | Are procedures in place to manage the hazards associated with tyre handling and changes? *(should be developed in consultation with tyre provider)* |  |  |
|  | Are procedures in place to manage the hazards associated with towing vehicles? *(use of strops as opposed to chains)* |  |  |
|  | Do procedures (SWMS) exist to control cutting and welding activities? *(AS 1674.2)* |  |  |
|  | Do procedures/permits exist to control the risks associated with working at heights, lifting, confined space entry, hot work, pressurised fluids |  |  |
| Energy Isolation | Is there an isolation system (tag out / lock out)? *(including documented procedure)* |  |  |
|  | Does the system relate to all mobile and fixed plant? |  |  |
|  | Are all pieces of mobile plant fitted with battery isolation devices for lock out? *(Best practise)* |  |  |
|  | Does the procedure require someone to check repairs before machine is recommissioned? |  |  |
| **Competencies** |  |  |  |
| Tradesperson | Is mechanical work only conducted by trained persons*? (Complex maintenance work may require qualified/competent tradespersons)* |  |  |
|  | Does the site have a copy of the tradespersons’ qualifications/licenses? |  |  |
|  | Have tradespersons been given a site induction? |  |  |
|  | Does the site induction include the site isolation procedures? |  |  |
| Employees | Have operators been trained in performing pre-start inspections and basic maintenance? |  |  |
|  | Have employees/operators been trained in the testing of ‘safety critical items’? (testing of brakes, steering particularly in emergency situations) |  |  |
|  | Are people performing welding tasks appropriately trained? *(no load bearing welding without qualifications)* |  |  |
| **Equipment** |  |  |  |
| Conveyors | Are all belt conveyors fitted with emergency stop systems? |  |  |
|  | Are all belts fitted with compliant guarding to protect persons from nip points? |  |  |
|  | Are belts fitted with protection devices where there is a risk of falling objects hitting persons? |  |  |
|  | Are prestart warning sirens fitted to belts where the entire length of the belt cannot be observed? |  |  |
| Mobile plant | Is all mobile plant fit for purpose? |  |  |
|  | See PMHMP section 20 **‘Roads or other vehicle operating areas’** |  |  |
|  | See PMHMP section 20 **‘ Fire or explosion’** |  |  |
| Structures | Are structures regularly inspected to confirm their structural integrity? |  |  |
|  | Are the persons inspecting structures appropriately qualified? |  |  |
| Hand held tools | Are hand held tools routinely checked and tagged *(See Electrical Risk Assessment Form)* |  |  |
| Welding | Is cutting and welding equipment routinely inspected? *(See Electrical Risk Assessment Form)* |  |  |

# Form 10B – Register and maintenance schedule

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type** | **Details**  **(rego, make, item number, serial number)** | **Type of maintenance**  **(pre-start, scheduled)** | **Frequency**  **(of maintenance after referring to OEM requirements)** | **Who**  **(performs maintenance)** | **Forms**  **To be used** |
| **Mobile** |  |  |  |  |  |
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| **Fixed plant** |  |  |  |  |  |
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| **Auto electrical** |  |  |  |  |  |
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# Form 10C – Earthmoving machinery pre-start check sheet

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| --- | --- | --- | --- | --- |
| Vehicle details |  | | | |
|  | 🗸 = OK | 🗴 = Fault | n/a – not applicable |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Mon** | **Tues** | **Wed** | **Thurs** | **Fri** | **Sat** | **Sun** |
| Date: |  |  |  |  |  |  |  |
| Operators name: |  |  |  |  |  |  |  |
| Start hours: |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Priority “HIGH” Faults.**  **The machine must be tagged OUT OF SERVICE and NOT operated until repaired. Report to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |
| Normal brake |  |  |  |  |  |  |  |
| Emergency brake |  |  |  |  |  |  |  |
| Park brake |  |  |  |  |  |  |  |
| Normal steering |  |  |  |  |  |  |  |
| Emergency steering |  |  |  |  |  |  |  |
| Warning lights/alarms |  |  |  |  |  |  |  |
| Guards |  |  |  |  |  |  |  |
| Hydraulic controls |  |  |  |  |  |  |  |
| Seat belt |  |  |  |  |  |  |  |
| Steps / access / handrails |  |  |  |  |  |  |  |
| Cb / 2way radio |  |  |  |  |  |  |  |
| Flashing lights |  |  |  |  |  |  |  |

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| **Priority “MEDIUM” Faults.**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ authorisation required before operating machine.** | | | | | | | |
| Body / Bucket damage |  |  |  |  |  |  |  |
| Bolts / nuts |  |  |  |  |  |  |  |
| Pins and Brushes |  |  |  |  |  |  |  |
| Oil leaks |  |  |  |  |  |  |  |
| Reverse warning device/camera |  |  |  |  |  |  |  |
| Water leaks |  |  |  |  |  |  |  |
| Fuel leaks |  |  |  |  |  |  |  |
| Air leaks |  |  |  |  |  |  |  |
| Horn |  |  |  |  |  |  |  |
| Lights |  |  |  |  |  |  |  |
| Gauges |  |  |  |  |  |  |  |
| Cb / 2way radio |  |  |  |  |  |  |  |
| Fire extinguisher/fire suppression |  |  |  |  |  |  |  |

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| **Priority “LOW” Faults.**  **Repairs required report to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |
| Windscreens/windows/doors/seals |  |  |  |  |  |  |  |
| Air conditioner |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Mirrors |  |  |  |  |  |  |  |
| Wipers / washers |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Oils |  |  |  |  |  |  |  |
| Tyre inflation / condition |  |  |  |  |  |  |  |
| Rims |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fluids –**  **All vehicles shall be refuelled and fluids checked before use.** | | | | | | | |
| Fuel |  |  |  |  |  |  |  |
| Transmission oil |  |  |  |  |  |  |  |
| Hydraulic oil |  |  |  |  |  |  |  |
| Steering oil |  |  |  |  |  |  |  |
| Brake fluid |  |  |  |  |  |  |  |
| Radiator fluid / coolant |  |  |  |  |  |  |  |
| Engine oil |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Fault description** | **Priority (circle)** | | | **Actions taken to Rectify** | **Date completed**  **by who** |
|  |  | **H** | **M** | **L** |  |  |
|  |  | **H** | **M** | **L** |  |  |
|  |  | **H** | **M** | **L** |  |  |
|  |  | **H** | **M** | **L** |  |  |
|  |  | **H** | **M** | **L** |  |  |
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|  |  | **H** | **M** | **L** |  |  |

# Form 10D – Crushing and screening plant pre-start check sheet

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| --- | --- | --- | --- | --- |
| Plant details |  | | | |
|  | 🗸 = OK | 🗴 = Fault | n/a – not applicable |  |

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Mon** | **Tues** | **Wed** | **Thurs** | **Fri** | **Sat** | **Sun** |
| Date: |  |  |  |  |  |  |  |
| Operators name: |  |  |  |  |  |  |  |
| Start hours: |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Priority “HIGH” Faults.**  **The machine must be tagged OUT OF SERVICE and NOT operated until repaired. Report to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |
| Guards |  |  |  |  |  |  |  |
| Tail drums |  |  |  |  |  |  |  |
| Idler rollers |  |  |  |  |  |  |  |
| Other nip points |  |  |  |  |  |  |  |
| Lanyards |  |  |  |  |  |  |  |
| Emergency stops |  |  |  |  |  |  |  |
| Electrical wiring |  |  |  |  |  |  |  |
| Warning lights/alarms |  |  |  |  |  |  |  |
| Pre-start warning device (if fitted) |  |  |  |  |  |  |  |
| Major structural damage |  |  |  |  |  |  |  |
| Conveyor Belt condition |  |  |  |  |  |  |  |
| Steps / Access / Handrails |  |  |  |  |  |  |  |

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| **Priority “MEDIUM” Faults.**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Authorisation required before operating machine** | | | | | | | |
| Hydraulic hoses |  |  |  |  |  |  |  |
| Minor structural damage |  |  |  |  |  |  |  |
| Spillage interfering with operation |  |  |  |  |  |  |  |
| Communication systems |  |  |  |  |  |  |  |
| Belt tracking correctly |  |  |  |  |  |  |  |
| Fluid leaks |  |  |  |  |  |  |  |

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| **Priority “LOW” Faults.**  **Repairs required report to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |
| /Windows/Doors/Seals |  |  |  |  |  |  |  |
| Air conditioner |  |  |  |  |  |  |  |
| Gearbox and drive couplings |  |  |  |  |  |  |  |
| Mirrors |  |  |  |  |  |  |  |
| Housekeeping |  |  |  |  |  |  |  |
| Fire Extinguisher |  |  |  |  |  |  |  |
| Damaged signage |  |  |  |  |  |  |  |
| Safety equipment |  |  |  |  |  |  |  |

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| **Fluids – All generators shall be refuelled and fluids checked before use** | | | | | | | |
| Hydraulic oil – check |  |  |  |  |  |  |  |
| Engine oil – check |  |  |  |  |  |  |  |
| Fuel level – check |  |  |  |  |  |  |  |
| Water level radiator - check |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Fault Description** | **Priority (circle)** | | | **Actions taken to Rectify** | **Date completed**  **By who** |
|  |  | **H** | **M** | **L** |  |  |
|  |  | **H** | **M** | **L** |  |  |
|  |  | **H** | **M** | **L** |  |  |
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# Form 10E – Plant file/record of maintenance work

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| --- | --- |
| **Plant description** | (name of plant or plant number) |

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| **Date work was completed** | **Description of work completed** | **Work completed by** | **Estimated cost** |
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# Form 10G – Plant and vehicle introduction to site

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| **Project:** | **Date:** |
| **Person inspecting:** | **Job title:** |
|  |  |
| **Plant details** | |
| **Type of plant:** | **Contractor:** |
| **Make / model:** | **ID number:** |
| **Serial Number:** |  |

| **Plant inspection** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Compliant** | **Yes** | **No** | **N/a** | **Compliant** | **Yes** | **No** | **N/a** |
| Plant risk assessment and maintenance records obtained | **❑** | **❑** | **❑** | Any obvious leaks (engine/ hydraulic oil etc.) | **❑** | **❑** | **❑** |
| OEM available | **❑** | **❑** | **❑** | Any obvious damage | **❑** | **❑** | **❑** |
| Prestart inspection book available | **❑** | **❑** | **❑** | Guards fitted and in good condition | **❑** | **❑** | **❑** |
| Amber beacon | **❑** | **❑** | **❑** | Tyres/ tracks in good condition | **❑** | **❑** | **❑** |
| Uhf radio | **❑** | **❑** | **❑** | Safe access and egress for operator | **❑** | **❑** | **❑** |
| Fire extinguisher (current inspection date and secure) | **❑** | **❑** | **❑** | Windows, mirrors clean and undamaged | **❑** | **❑** | **❑** |
| Reverse alarms | **❑** | **❑** | **❑** | Rops / fops installed | **❑** | **❑** | **❑** |
| Safe working load displayed | **❑** | **❑** | **❑** | Lifting and rigging equipment | **❑** | **❑** | **❑** |
| Horn | **❑** | **❑** | **❑** | Regulatory inspections (cranes) | **❑** | **❑** | **❑** |
| Other | **❑** | **❑** | **❑** | Other: | **❑** | **❑** | **❑** |
| Two-way Radio (Mine Compliant) | 🖵 | 🖵 | 🖵 | Item & Design Registration – pressure vessels, EWP’s, man baskets, cranes over 10 tonnes | 🖵 | 🖵 | 🖵 |
| Battery Isolator & Starter Isolator | 🖵 | 🖵 | 🖵 | Battery Jump Start Receptacle | 🖵 | 🖵 | 🖵 |
| Reflective Identification | 🖵 | 🖵 | 🖵 | Structural Integrity - corrosion | 🖵 | 🖵 | 🖵 |
| Pre-start Inspection Book | 🖵 | 🖵 | 🖵 | Housekeeping/Condition | 🖵 | 🖵 | 🖵 |
| Windscreen | 🖵 | 🖵 | 🖵 | Safety File | 🖵 | 🖵 | 🖵 |
| Access & Egress – stairs, ladders and guardrails on all platforms | 🖵 | 🖵 | 🖵 | Battery Installation & Condition | 🖵 | 🖵 | 🖵 |
| Operator Controls – functioning and labelled | 🖵 | 🖵 | 🖵 | Wheel Chocks | 🖵 | 🖵 | 🖵 |
| Seat Belts & Seating – functioning and on all seats | 🖵 | 🖵 | 🖵 | Cabin | 🖵 | 🖵 | 🖵 |
| Risk Assessments – operational and maintenance | 🖵 | 🖵 | 🖵 | Service/maintenance Records | 🖵 | 🖵 | 🖵 |
| Manuals - OEM | 🖵 | 🖵 | 🖵 | Brackets, Pins & Hinge Joints | 🖵 | 🖵 | 🖵 |
| Test Certificates – Pressure vessels | 🖵 | 🖵 | 🖵 | Winches/Lifting Devices | 🖵 | 🖵 | 🖵 |
| ROPS/FOPS – cabin, | 🖵 | 🖵 | 🖵 | Height Clearance Label | 🖵 | 🖵 | 🖵 |
| Guards – on all moving and hot parts | 🖵 | 🖵 | 🖵 | MDG 15 Assessment | 🖵 | 🖵 | 🖵 |
| Signage – warning and danger signs | 🖵 | 🖵 | 🖵 | Green Running Lights | 🖵 | 🖵 | 🖵 |
| Fire Extinguisher &/or Suppression System | 🖵 | 🖵 | 🖵 | Rear View Mirrors | 🖵 | 🖵 | 🖵 |
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| Fuel System | 🖵 | 🖵 | 🖵 | Brake System | 🖵 | 🖵 | 🖵 |
| Coolant System | 🖵 | 🖵 | 🖵 | Engine/Drive Motor | 🖵 | 🖵 | 🖵 |
| Hydraulic System | 🖵 | 🖵 | 🖵 | Air Systems | 🖵 | 🖵 | 🖵 |
| Exhaust System & Turbocharger | 🖵 | 🖵 | 🖵 | Tyres and Rims | 🖵 | 🖵 | 🖵 |
| Air-conditioning & Heating Systems | 🖵 | 🖵 | 🖵 |  |  |  |  |
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| Conduits & Clamps | 🖵 | 🖵 | 🖵 | Terminated Ends | 🖵 | 🖵 | 🖵 |
| Terminals | 🖵 | 🖵 | 🖵 | Fuses | 🖵 | 🖵 | 🖵 |
| Segregation from other systems | 🖵 | 🖵 | 🖵 | E-stops | 🖵 | 🖵 | 🖵 |
| Glanding / Bushing of Cables | 🖵 | 🖵 | 🖵 | Electrical Enclosures & Panels | 🖵 | 🖵 | 🖵 |
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| Lighting, Lights & Indicators | 🖵 | 🖵 | 🖵 | E-stop | 🖵 | 🖵 | 🖵 |
| Horn & Instrumentation | 🖵 | 🖵 | 🖵 | Battery Isolator | 🖵 | 🖵 | 🖵 |
| Reversing/Travel Alarm | 🖵 | 🖵 | 🖵 | Wipers & Washers | 🖵 | 🖵 | 🖵 |
| Flashing Light | 🖵 | 🖵 | 🖵 | Auxiliary Devices (if fitted) | 🖵 | 🖵 | 🖵 |
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| **Light vehicle inspection** | | | | | | | | |
| **Compliant** | **Yes** | **No** | **N/a** | **Compliant** | | **Yes** | **No** | **N/a** |
| Amber beacon | 🖵 | 🖵 | 🖵 | Flag pole (if applicable) | | 🖵 | 🖵 | 🖵 |
| Uhf radio | 🖵 | 🖵 | 🖵 | Tyres in good condition | | 🖵 | 🖵 | 🖵 |
| Reverse alarm | 🖵 | 🖵 | 🖵 | Any obvious damage | | 🖵 | 🖵 | 🖵 |
| Fire extinguisher (current inspection date and secure) | 🖵 | 🖵 | 🖵 | Vehicle id decals | | 🖵 | 🖵 | 🖵 |
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| Two-way Radio (Mine compliant) | 🖵 | 🖵 | 🖵 | Battery Installation & Condition | | 🖵 | 🖵 | 🖵 |
| Reflective Identification | 🖵 | 🖵 | 🖵 | Housekeeping/Condition | | 🖵 | 🖵 | 🖵 |
| Flashing/Rotating Light | 🖵 | 🖵 | 🖵 | Seat Belts | | 🖵 | 🖵 | 🖵 |
| Pre-start Inspection Book | 🖵 | 🖵 | 🖵 | Guards | | 🖵 | 🖵 | 🖵 |
| Cargo Barrier / Load Resistant | 🖵 | 🖵 | 🖵 | Other Plant Mounted to Vehicle | | 🖵 | 🖵 | 🖵 |
| Rated Tow Hitch | 🖵 | 🖵 | 🖵 | Fire Extinguishers | | 🖵 | 🖵 | 🖵 |
| Rear View Mirrors | 🖵 | 🖵 | 🖵 | Emergency Trauma Kit | | 🖵 | 🖵 | 🖵 |
| Driver’s Side Airbag | 🖵 | 🖵 | 🖵 | Terminals | | 🖵 | 🖵 | 🖵 |
| Exhaust System | 🖵 | 🖵 | 🖵 | Electric Cables | | 🖵 | 🖵 | 🖵 |
| V- Belts | 🖵 | 🖵 | 🖵 | Steering Linkages | | 🖵 | 🖵 | 🖵 |
| Coolant System | 🖵 | 🖵 | 🖵 | Suspension System | | 🖵 | 🖵 | 🖵 |
| Brake System | 🖵 | 🖵 | 🖵 | Driveline Components | | 🖵 | 🖵 | 🖵 |
| Fuel System | 🖵 | 🖵 | 🖵 | Engine/Drive Motor | | 🖵 | 🖵 | 🖵 |
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| Lighting, Lights & Indicators | 🖵 | 🖵 | 🖵 | Wipers & Washers | | 🖵 | 🖵 | 🖵 |
| Horn & Instrumentation | 🖵 | 🖵 | 🖵 | Wheel, Rims & Tyres | | 🖵 | 🖵 | 🖵 |
| Reversing/Travel Alarm | 🖵 | 🖵 | 🖵 | Windscreen & Mirrors | | 🖵 | 🖵 | 🖵 |
| Brake Lights | 🖵 | 🖵 | 🖵 | Brakes | | 🖵 | 🖵 | 🖵 |
| Reversing Camera | 🖵 | 🖵 | 🖵 |  | |  |  |  |
|  |  |  |  |  | |  |  |  |
| Person conducting inspection sign: | | | | | Date: | | | |
| Plant operator/supplier sign: | | | | | Date: | | | |