



Government of **Western Australia**
Department of **Mines, Industry Regulation and Safety**
Resources Safety

Management systems for small mines audit – guide

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Introduction

This document was reformatted in November 2015. At this time no material changes were made to the content of the guide, which was originally published in December 2010 under the title *Guide to management systems audit (small mines) 2010*.

Note: The Safety Regulation System (SRS) has replaced the AXTAT system and all reporting is done online through SRS.

The scope of this audit document is designed to cover the implementation of safety standards associated with the management of small mining operations. This may apply to a mine with less than 50 employees.

The audit is split up into sections covering management systems, induction, procedures and training, statutory compliance, accident/incident reporting and investigation, occupational health, behaviour and culture, mobile plant, fixed plant, workshop, isolation and tagging and emergency plan.

Where, in the intent, the word “verify” is used, this means that it is a regulatory requirement, which is mandatory and has to be complied with. Where, in the intent, the word “ensure” is used, it is not a mandatory requirement, but it does set out a recommended safe method which, if followed, should minimise the potential for an adverse incident to take place.

1 Management systems

Management systems

Point	Standard	Guideline
1.1	There is a current written policy statement that sets out the Safety and Health Policy of the organisation.	<p>Intent: To ensure that the current principal employer is committed to developing and providing safe workplaces and work practices.</p> <p>Personnel: N/A.</p> <p>Method: View Company Safety Policy statement. A single copy of the safety policy statement issued by the current principal employer displayed in a prominent position at the mine will be sufficient to meet this standard.</p>
1.2	Contractors employed at the site are required to comply with the principal employer's Safety and Health Policy.	<p>Intent: To ensure that all contractors are subject to the safety and health policies of the principal employer and that the policies are enforced.</p> <p>Personnel: Registered managers, quarry manager, underground manager, supervisors, contractor management.</p> <p>Method: Sight induction document, induction records, contract and site policy documentation.</p>
1.3	Management have provided the applicable statutory mine record books required.	<p>Intent: To verify employers have provided the applicable record books for recording statutory information.</p> <p>Personnel: Registered manager.</p> <p>Method: Confirm that the site has provided a mine record book, accident log book, electrical log book, classified plant record book, ventilation log book winding engine log book and a winding rope log book as applicable for the mine. Refer to MSIA s. 23 and s. 77, MSIR rr. 5.13, 6.25, 8.46(3), 9.7, 11.8 and 11.40</p>

1.4	A current site organisation chart is available.	<p>Intent:</p> <p>To ensure that management and sufficient personnel resources are in place to operate the site in a safe manner.</p> <p>Personnel:</p> <p>Registered Manager, quarry manager, underground manager, supervisors, contractors.</p> <p>Method:</p> <p>View the site organisation chart. Confirm that the organisation chart lists the relevant MSIA appointments and sufficient personnel are available to efficiently carry out the statutory duties.</p>
1.5	Management have established documented permit systems for certain categories of work.	<p>Intent:</p> <p>To verify that work carried out in high risk environments is systematically controlled to minimise risk.</p> <p>Personnel:</p> <p>Registered manager.</p> <p>Method:</p> <p>Confirm that the site has established permit systems for confined space, hot work, work in close proximity to high voltage conductors or components, and ground excavation work. Refer to MSIR rr. 4.2, 4.3, 5.18(2)(f) and 5.31(2)</p>
1.6	The principal employer has developed and implemented a Safety and Health Plan for the site and each work group.	<p>Intent:</p> <p>To ensure that measurable safety and health objectives have been determined for the site.</p> <p>Personnel:</p> <p>Registered manager, quarry manager, supervisors, safety representatives and employees.</p> <p>Method:</p> <p>Sight the current Safety and Health Plan for the site. Interview employees to assess if they know and understand the key elements/objectives of the Safety and Health Plan and their role in achieving the safety objectives.</p>
1.7	Management have established a system of employee input with regard to safety and health.	<p>Intent:</p> <p>To verify employees have the means to consult with the employer on matters of safety and health.</p> <p>Personnel:</p> <p>Registered manager, safety and health representatives, employees.</p> <p>Method:</p> <p>Confirm that the site has an established method of consultation between management and employees. Refer to MSIA s. 9(1)(c)</p>

1.8	Safety and health meetings are held.	<p>Intent: To ensure that management and employees regularly discuss safety and health matters.</p> <p>Personnel: Registered manager, contractor management and employees.</p> <p>Method: Confirm that Safety and health or tool box safety meetings are held regularly. Sight minutes of meetings.</p>
1.9	Personal protective clothing and equipment (PPE) is provided to all employees at no cost.	<p>Intent: To verify that PPE is available and provided at no cost to the employee.</p> <p>Personnel: Registered manager, supervisors, employees and contractors.</p> <p>Method: Check PPE availability. Consult with employees. Refer to MSIA s. 9(1)(d) and MSIR r. 4.1</p>
1.10	Means of internal and external communications are available on site.	<p>Intent: To ensure that there is a reliable means of communication between areas both onsite and offsite.</p> <p>Personnel: Registered manager.</p> <p>Method: Confirm by sighting and checking the communication systems installed at the site.</p>

2 Induction, procedures, training and supervision

Induction, procedures, training and supervision

Point	Standard	Guideline
2.1	There is a safety induction process for the site.	<p>Intent: To verify that employees and visitors are informed of the site hazards and safety requirements.</p> <p>Personnel: Registered manager and employees.</p> <p>Method: Verify that the mine has an induction process for personnel commencing work at the site, and visitors. Confirm by interview with management and employees that an induction takes place. Examine a sample of induction records to confirm the process occurs. Refer to MSIA s. 9(1)(b) and MSIR r. 4.13</p>
2.2	Safe systems of work have been developed and implemented by each employer.	<p>Intent: To verify that work is carried out in a safe consistent manner in accordance with the applicable employer instructions.</p> <p>Personnel: Registered manager and contractor management.</p> <p>Method: View a sample of the safe work procedures and site instructions issued. Confirm that the work procedures are developed and approved by the employer, include a risk analysis and the applicable regulatory requirements are included in the procedures and instructions. Refer to MSIA s. 9(1)(b)</p>
2.3	Management issues clear on the job safety instructions prior to any work being commenced at the site	<p>Intent: To verify that employers assess each workplace and issue the necessary safety instructions for work to be carried in a safe consistent manner.</p> <p>Personnel: Registered manager, quarry manager, underground manager, supervisor, employees.</p> <p>Method: Confirm safety instructions are issued in the workplace. Interview management staff, supervision and employees to confirm if on the job instructions are issued consistently prior to work being commenced. Refer to MSIA s. 9(1)(b)</p>

2.4	Personnel are trained and assessed as competent to perform allocated tasks.	<p>Intent:</p> <p>To verify that personnel are trained and assessed competent to carry out work in a safe consistent manner.</p> <p>Personnel:</p> <p>Registered manager, supervisors, electricians, fitters, contractor management and employees.</p> <p>Method:</p> <p>Verify that the mine has implemented a training and “on the job” competency assessment programme for site personnel. Confirm by interview with management and employees that training and “on the job” competency assessment has taken place. Examine a sample of training records for management, supervisors, trades staff and employees to confirm the process occurs in all areas. Refer to MSIA s. 9(1)(b) and MSIR r. 4.13</p>
2.5	Management maintains a file record of each employee's training history.	<p>Intent:</p> <p>To verify employers document the workplace training provided for each employee.</p> <p>Personnel:</p> <p>Registered manager and contractor management.</p> <p>Method:</p> <p>Sight the training records for a sample of personnel. Refer to MSIR r. 4.13(2)</p>
2.6	Management have appointed competent personnel to supervise employees.	<p>Intent:</p> <p>To verify that employers provide the necessary supervision on each shift for work to be carried out in a safe consistent manner.</p> <p>Personnel:</p> <p>Registered manager, quarry manager, underground manager, supervisor, employees.</p> <p>Method:</p> <p>View appointment documentation to confirm that competent persons are appointed to provide supervision at the workplaces on each working shift. Refer to MSIA s. 9(1)(b)</p>

3 Statutory compliance

Statutory compliance

Point	Standard	Guideline
3.1	Management carries out its statutory responsibilities in respect to the inspection of workplaces.	<p>Intent: To verify that safe workplaces are being maintained by the completion of inspections on a regular basis.</p> <p>Personnel: Registered manager, quarry manager, underground manager, supervisors, employees.</p> <p>Method: Sight shift and daily inspection reports for the site. Refer to MSIR rr. 3.18, 3.19, 3.20, 3.21 and 3.22</p>
3.2	The Registered Manager ensures that appointed persons perform all duties imposed on them in writing under the Act.	<p>Intent: To verify the registered manager ensures and holds appointed persons accountable for compliance with the duties imposed on them under the Act.</p> <p>Personnel: Registered manager.</p> <p>Method: Confirm that the manager ensures that all duties are performed by appointed persons. Refer to MSIA ss. 43 and 43A</p>
3.3	Management has complied with the primary statutory responsibilities in respect of the installation, operation and licensing of its electrical installation.	<p>Intent: To verify that the use of electricity at the site is being managed in a safe consistent manner.</p> <p>Personnel: Registered manager, electrical supervisor, electrical contractor.</p> <p>Method: Sight the Electrical Log Book, appointment of an electrical supervisor, high voltage submissions, EnergySafety communications and licences. Refer to MSIR Part 5 – Electricity in mines</p>

3.4

Management carries out its statutory responsibilities in respect of the registration, inspection and maintenance of Classified Plant.

Intent:

To verify that classified plant is being statutorily maintained in a safe consistent manner

Personnel:

Registered manager, maintenance staff, approved person.

Method:

Identify the items of classified plant at the site and verify that classified plant records, inspections and maintenance schedules are being maintained in accordance with the statutory requirements.

Refer to MSIR rr. 6.34 and 6.40

4 Accident/incident reporting and investigation

Accident/incident reporting and investigation

Point	Standard	Guideline
4.1	Management have established an immediate hazard/occurrence/accident reporting, control and rectification process.	<p>Intent:</p> <p>To verify the registered manager or designate is immediately and continually informed of the safety issues and actions taken.</p> <p>Personnel:</p> <p>Registered manager, supervisors, employees.</p> <p>Method:</p> <p>Sight the reporting system. Confirm the safety reports are passed on immediately and acted upon in accordance with input from the registered manager or designate in a timely manner. Refer to MSIA ss. 11, and 11A</p>
4.2	Management carries out its statutory responsibilities in respect of the recording and reporting of serious accidents and potentially serious accidents.	<p>Intent:</p> <p>To verify that recording and reporting of serious accidents and potentially serious accidents are recorded and reported to the district inspector in an accurate and timely manner.</p> <p>Personnel:</p> <p>Registered manager.</p> <p>Method:</p> <p>Sight reporting procedures, first aid accident reports and Mine Record Book report documentation. Confirm that serious and potentially serious accidents are reported immediately to the district inspector and permission is requested to disturb the accident site. Refer to MSIA ss. 76, 77 and 81</p>
4.3	Management carries out its statutory responsibilities in respect of the recording and reporting of injuries to workers and the total hours worked by employees and the number of employees.	<p>Intent:</p> <p>To verify accurate and timely reporting of lost time injuries, total hours worked by employees and the number of employees is being carried out by the site.</p> <p>Personnel:</p> <p>Registered manager.</p> <p>Method:</p> <p>Examine the Accident Log Book and compare with DMIRS Mining Injury Reports and Monthly Status Report Form files (SRS information). Confirm that DMIRS SRS notifications are sent within 2 weeks of the end of each month. Refer to MSIA s. 76 and MSIR rr. 3.41 and 3.42</p>

4.4	Management carries out its statutory responsibilities in respect of the recording and reporting of occurrences and potentially serious occurrences.	<p>Intent:</p> <p>To verify that occurrences and potentially serious occurrences are recorded and reported to the district inspector in an accurate and timely manner.</p> <p>Personnel:</p> <p>Registered Manager.</p> <p>Method:</p> <p>Sight incident record files and Mine Record Book. Refer to MSIA s. 78 and 79</p>
4.5	Formal procedures are in place to investigate accidents, occurrences and property damage.	<p>Intent:</p> <p>To verify that the contributory factors leading to accidents, occurrences and property damage are identified and rectified.</p> <p>Personnel:</p> <p>Registered manager, contractor management, safety and health representative, supervisors and employees.</p> <p>Method:</p> <p>Sight investigation procedures and reports. Confirm that the company investigation report is factual, contains the applicable information relevant to the incident and the corrective actions taken. Refer to MSIA ss. 9, 11 and 11A</p>

5 Occupational health

Occupational health

Point	Standard	Guideline
5.1	Occupational health hazards have been identified.	<p>Intent: To verify that the occupational health hazards at the site have been identified.</p> <p>Personnel: Registered manager.</p> <p>Method: View documentation. Determine if the health hazards of atmospheric contaminants, noise, chemicals (where applicable) are present and have been recognized. Refer to MSIR Part 7 Occupational Health and Part 9 Ventilation and Control of Dust and Atmospheric Contaminants.</p>
5.2	Control measures are in place to reduce occupational health hazards identified.	<p>Intent: To verify that measures have been implemented to reduce those hazards.</p> <p>Personnel: Registered manager, employees.</p> <p>Method: Interview manager and selection of employees. Sight examples of those measures implemented at the mine e.g. dust suppression systems, noise enclosures etc. Refer to MSIR rr. 7.4, 7.5, 7.28, 9.10, 9.12, 9.15 and 9.30</p>
5.3	The control measures implemented to reduce occupational health hazards are effective.	<p>Intent: To verify that monitoring checks are carried out and that actions taken to reduce the hazards do, in fact, work.</p> <p>Personnel: Registered manager, employees.</p> <p>Method: Inspect the measures implemented and gauge their effectiveness. View any monitoring records which show trends and “before” and “after” results. Refer to MSIA ss. 11, 11A and MSIR rr. 7.29, 7.30, 9.13 and 9.15(2)(c)</p>

5.4	Employees have been educated in the occupational health hazards identified.	<p>Intent: To verify that employees are provided with information in respect of the health hazards present.</p> <p>Personnel: Registered manager, employees.</p> <p>Method: Interview manager and selection of employees. View literature used in the educational program e.g. induction content. Refer to MSIA s. 9(1)(b) and MSIR r. 4.13</p>
5.5	The exposure level of employees to occupational health hazards has been evaluated.	<p>Intent: To verify that the employees exposure to occupational health hazards have been quantified.</p> <p>Personnel: Registered manager, employees.</p> <p>Method: Interview manager and selection of employees. View records of monitoring programs or assessments e.g. noise report, contaminant monitoring. Confirm that individual employees have been included in the monitoring process and advised of their result. Refer to MSIR 7.10, 7.29, 7.30, 9.13 and 9.15(2)(c)</p>
5.6	Management has caused a noise report to be compiled.	<p>Intent: To verify the level of noise exposure has been assessed and control strategies have been put in place.</p> <p>Personnel: Registered manager.</p> <p>Method: Confirm that a noise report has been prepared, the noise notification has been sent to DMIRS and a current noise control plan is in place. Refer to MSIR rr. 7.8, 7.9, 7.10 and 7.11</p>
5.7	Where necessary, employees wear appropriate personal protective equipment to reduce exposure to occupational health hazards identified.	<p>Intent: To verify that PPE is worn by employees where it is necessary to reduce occupational exposure to the health hazards.</p> <p>Personnel: Registered manager, employees.</p> <p>Method: Interview manager and selection of employees. View range of PPE made available. Carry out field observations of selected employees to determine if PPE is being worn (where it is appropriate that it be worn). Refer to MSIA s. 10 and MSIR r. 4.1</p>

6 Behaviour and culture

Behaviour and culture

Point	Standard	Guideline
6.1	Disciplinary procedures are in place for unacceptable behaviour and unsafe acts.	<p>Intent: To ensure company management and the contractors enforce their disciplinary procedures and eliminate unsafe acts.</p> <p>Personnel: Registered manager, employees and contractors.</p> <p>Method: Confirm by interviews with management that disciplinary procedures are in place for unacceptable behaviour, including bullying. Sight policy documents.</p>
6.2	The disciplinary procedure is enforced by management.	<p>Intent: To ensure management is committed to enforcing their safety and health procedures and do not tolerate unacceptable behaviour.</p> <p>Personnel: Registered manager, employees and contractors.</p> <p>Method: Confirm by interview with management and employees that disciplinary procedures are enforced. Confirm by sighting personnel records that such enforcement is occurring.</p>

7 Mobile plant

Mobile plant

Point	Standard	Guideline
7.1	A competent person is appointed to supervise maintenance.	<p>Intent: To verify that a competent person supervises mobile plant maintenance.</p> <p>Personnel: Registered manager, maintenance supervisor.</p> <p>Method: Interview registered manager and maintenance supervisor. Refer to MSIA s. 44 and MSIR rr. 6.20 and 6.22</p>

7.2	There is a system of maintenance for mobile plant.	<p>Intent: To verify that mobile plant is subject to a system of maintenance.</p> <p>Personnel: Maintenance supervisor, and mobile plant operators.</p> <p>Method: View maintenance program. Refer to MSIR rr. 6.2, 10.37, 10.38, 10.42, 13.2 and 13.3</p>
7.3	Records are kept for maintenance of mobile plant.	<p>Intent: To verify that details of maintenance work carried out is recorded and retained.</p> <p>Personnel: Registered manager, maintenance supervisor.</p> <p>Method: Interview maintenance supervisor, and view maintenance records. Refer to MSIR r. 6.25 Interview maintenance supervisor, and view maintenance records. Refer to MSIR r. 6.25</p>
7.4	There is a system to make checks and approve the arrival of all company and contractors' mobile plant.	<p>Intent: To verify that there is a system in place to check the condition of both company and contractor's mobile plant and approve of its use at the site.</p> <p>Personnel: Manager, maintenance supervisor.</p> <p>Method: View procedure documentation and records. Refer to MSIR rr. 6.2(1) and 6.20</p>
7.5	There is a document to show that operator pre-start checks are carried out for mobile plant.	<p>Intent: To verify that a consistent pre-start or safety check is carried out on mobile plant prior to use to confirm it is safe to be used.</p> <p>Personnel: Maintenance supervisor, and mobile plant operators.</p> <p>Method: View a sample of completed mobile plant pre start checklist documentation. Refer to MSIR r. 13.3</p>

7.6	There is a procedure to report operational faults on mobile plant.	<p>Intent:</p> <p>To verify that there is a procedure to report operational faults. View maintenance procedure and a sample of maintenance records containing condition reports for any reported faults.</p> <p>Personnel:</p> <p>Maintenance supervisor, mobile plant operators.</p> <p>Method:</p> <p>View procedure and documentation. Refer to MSIR r. 6.2</p>
7.7	The faults are rectified in an acceptable timeframe.	<p>Intent:</p> <p>To ensure that identified faults are rectified in a reasonable time frame.</p> <p>Personnel:</p> <p>Maintenance supervisor, and mobile plant operators.</p> <p>Method:</p> <p>View sample of records. Interview operators.</p>
7.8	Operational mobile plant are provided with a functioning two way radio communication.	<p>Intent:</p> <p>To ensure that operators of mobile plant are provided with a functioning two way radio communication for routine communication, hazard warning and emergency notification.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>View sample of mobile plant and check for installation and function of radio communication equipment.</p>
7.9	ROPS, where necessary, is provided and maintained.	<p>Intent:</p> <p>To verify that items of surface earthmoving mobile plant are fitted with ROPS to protect the operator from injury during a roll over incident.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>View earthmoving plant and inspect sample of ROPS structures. Refer to MSIR r. 4.15</p>

7.10	FOPS, where necessary, is provided and maintained.	<p>Intent:</p> <p>To verify that items of underground earthmoving mobile plant are fitted with FOPS to protect the operator from injury during a rock fall incident.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>View earthmoving plant and inspect sample of FOPS structures. Refer to MSIR r. 10.46</p>
7.11	Mobile plant operators are trained and assessed for competency.	<p>Intent:</p> <p>To verify that operators are trained and assessed for competency on each type of mobile plant that the operator is required to operate.</p> <p>Personnel:</p> <p>Registered manager, mobile plant operators.</p> <p>Method:</p> <p>Interview registered manager, mobile plant operators. View sample of training records. Refer to MSIR r. 4.13</p>
7.12	The access road into the mine is segregated from mobile off-highway earthmoving equipment operations.	<p>Intent:</p> <p>To verify that visitors to the mine are not exposed to the dangers of mobile off-highway earthmoving equipment operations.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>View the access road and confirm that it is isolated and segregated from day to day earthmoving mobile equipment operations by the use of separate access, signage, earthen bunding, barriers etc. Refer to MSIA s. 13</p>
7.13	Access roads, haul roads and benches are maintained in safe condition.	<p>Intent:</p> <p>To verify that access roads, haulage roads and benches are maintained in a safe condition.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>View condition of access roads, haulage roads and benches. Determine if they are of suitable size, construction, signposted, bunded and regularly graded, watered, repaired, etc. as applicable. Refer to MSIA s. 13 and MSIR rr. 10.39, 10.40 and 13.7</p>

8 Fixed plant

Fixed plant

Point	Standard	Guideline
8.1	Fixed plant drives and moving parts are suitably guarded.	<p>Intent: To verify that moving parts are guarded to prevent injury.</p> <p>Personnel: N/A.</p> <p>Method: Inspect fixed plant guarding. Refer to MSIR rr. 4.4(3) and 6.2</p>
8.2	Fixed plant are provided with safe access including walkways, platforms.	<p>Intent: To verify that safe access is provided to operational fixed plant.</p> <p>Personnel: N/A.</p> <p>Method: Inspect fixed plant walkways and platforms. Confirm that walkways are provided and maintained free from trip hazards, spillage and muddy conditions. Refer to MSIR r. 6.2</p>
8.3	Fixed plant and buildings, so far as is practicable, are provided with alternative means of egress.	<p>Intent: To verify that a safe emergency egress is provided to operational fixed plant and buildings.</p> <p>Personnel: N/A.</p> <p>Method: Inspect fixed plant walkways and platforms. Confirm that walkways so far as is practicable have alternative means of egress and are maintained free from obstruction. Refer to MSIR r. 4.31</p>
8.4	The walkways and platforms provide access to major items for both operation and maintenance.	<p>Intent: To verify that safe access is provided to areas where equipment maintenance is required to be carried out.</p> <p>Personnel: Fixed plant operators and maintenance personnel.</p> <p>Method: Inspect plant installations. Interview plant operators and maintenance personnel to determine if they have difficulty accessing plant items for routine operation and maintenance. Refer to MSIR rr. 4.4, 6.2 and 6.20</p>

8.5	Handrails and guard rails are provided for elevated walkways and platforms.	<p>Intent: To verify that employees are not exposed to falls from height.</p> <p>Personnel: N/A.</p> <p>Method: Inspect handrail/guard rail installation. Confirm the platform has a handrail with a top rail above the pivot point of the body, a knee rail and a kick plate. Refer to MSIR r. 4.4(1)</p>
8.6	Items of fixed plant have a primary isolator.	<p>Intent: To verify that the major items of fixed plant can be electrically isolated via a primary isolator.</p> <p>Personnel: N/A.</p> <p>Method: Inspect primary isolation facility e.g. switch room, MCC, etc. Refer to MSIR r. 5.29</p>
8.7	The applicable items of fixed plant have a local isolator.	<p>Intent: To verify that local isolators are available at items of fixed plant.</p> <p>Personnel: N/A.</p> <p>Method: Inspect plant for installation of local isolators. Refer to MSIR rr. 4.6(6), 6.21(c) and 6.29(i)</p>
8.8	The isolation switches are labelled.	<p>Intent: To verify that the purpose of isolation controls are clearly identified as to which item of fixed plant it applies.</p> <p>Personnel: N/A.</p> <p>Method: View selection of isolation switches and determine if they are clearly labelled. Refer to MSIR r. 6.2(j)</p>

8.9	The isolation switches have provision for securing an isolation device.	<p>Intent:</p> <p>To verify that the isolation switches have a means by which an isolation device can be securely fixed in the isolation position.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>View selection of isolation switches and determine their suitability for secure isolation. Refer to MSIR r. 5.29</p>
8.10	The hazards associated with the manual cleaning of fixed plant have been identified.	<p>Intent:</p> <p>To verify that the hazards associated with the manual cleaning of the fixed plant have been determined.</p> <p>Personnel:</p> <p>Registered manager, fixed plant supervisor, plant operators.</p> <p>Method:</p> <p>View hazard identification documentation e.g. Job Safety Analysis. Determine if manual cleaning of plant is carried out and controls are determined to control the hazard. Refer to MSIR r. 6.17</p>
8.11	The procedure for the manual cleaning of fixed plant requires that, where a hazard exists, the plant directly involved is stopped, isolated and tagged.	<p>Intent:</p> <p>To verify that operators working on items of fixed plant are not exposed to a moving machinery hazard while undertaking their work.</p> <p>Personnel:</p> <p>Manager, fixed plant supervisor, plant operators.</p> <p>Method:</p> <p>View procedures and interview plant operators. Refer to MSIR rr. 6.21 and 6.27</p>

9 Workshop

Workshop

Point	Standard	Guideline
9.1	A workshop facility is provided for the maintenance of fixed and mobile plant.	<p>Intent: To ensure that there is a building provided for use as a workshop facility.</p> <p>Personnel: N/A.</p> <p>Method: View workshop. Confirm the workshop has adequate protection from harsh environmental conditions e.g. rain, wind, sun.</p>
9.2	The facility is appropriate for the types of tasks undertaken.	<p>Intent: To ensure that the workshop is appropriate in respect of construction, size, layout, and equipment for the tasks required at the workshop.</p> <p>Personnel: N/A.</p> <p>Method: Inspect workshop.</p>
9.3	The workshop has adequate facilities for the stable jacking of mobile equipment.	<p>Intent: To ensure that adequate flooring or jacking plates are available at the workshop.</p> <p>Personnel: N/A.</p> <p>Method: Inspect workshop. Check that reinforced flooring or jacking plates are available.</p>
9.4	Proper material handling and support equipment is provided for the tasks undertaken.	<p>Intent: To ensure that suitable equipment is provided to enable maintainers to safely carry out their tasks.</p> <p>Personnel: Workshop supervisor, maintenance personnel.</p> <p>Method: Interview supervisor and maintenance personnel. View selection of materials handling equipment e.g., jacks, vehicle stands, lifting devices, tyre cage, etc. Refer to DMIRS Significant Incident Report No 91.</p>

9.5	Adequate lighting is available for work to be carried out safely at the workshop.	<p>Intent: To verify that the work areas and emergency exits in the workshop are illuminated.</p> <p>Personnel: Workshop personnel.</p> <p>Method: Inspect workshop for fixed and portable lighting. Interview workshop personnel. Refer to MSIR rr. 4.32 and 13.6</p>
9.6	The workshop facility is maintained in a tidy condition.	<p>Intent: To ensure that there is attention to housekeeping in the workshop.</p> <p>Personnel: N/A.</p> <p>Method: Inspect workshop.</p>
9.7	Signs are provided to warn of possible eye, hearing and other safety hazards.	<p>Intent: To verify that signage is displayed to warn persons of hazards associated with the work and use of various power tools e.g. angle and bench grinders, drills etc.</p> <p>Personnel: N/A.</p> <p>Method: Inspect workshop for the display of safety signs. Refer to MSIR r. 4.10 and SAA HB9 Handbook – Occupational personal protection</p>
9.8	Fire control equipment is available at the workshop.	<p>Intent: To ensure that fire control equipment e.g. fire extinguishers, is located in the workshop.</p> <p>Personnel: N/A.</p> <p>Method: Inspect workshop for extinguishers.</p>
9.9	Machinery is maintained on a regular basis.	<p>Intent: To verify that the workshop machinery and equipment maintenance is carried out.</p> <p>Personnel: Workshop supervisor and personnel.</p> <p>Method: Check maintenance records. Interview supervisor and personnel to determine how often maintenance is done. Refer to MSIR rr. 6.2 and 6.20</p>

9.10	Gas cylinders are restrained.	<p>Intent:</p> <p>To verify that cylinders containing gases are secured during transport and storage to prevent damage or injury.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>Inspect storage and transport arrangements. Refer to MSIR r. 6.2 and reference AS 2030.1, sections 10.5 and 10.6</p>
9.11	Gas hoses and gauges are free from damage.	<p>Intent:</p> <p>To verify that the gas hoses and gauges are maintained in a safe operable condition.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>Inspect hoses and gauges. Refer to MSIR rr. 6.2, 6.22 and reference AS 4839</p>
9.12	Flash back arrestors are adequately sized and fitted to portable and mobile oxy-fuel gas systems for welding, cutting and heating metal.	<p>Intent:</p> <p>To ensure that the potential for a flash back is minimised.</p> <p>Personnel:</p> <p>N/A.</p> <p>Method:</p> <p>Observation. Check that flashback arrestors are fitted to each end of the hoses when using pressurised oxygen with a fuel gas. This does not apply to a fuel gas cylinder that is used with atmospheric air. Flashback arrestors must be of correct type and size recommended by the manufacturer. Refer to AS 4603 for markings and types of flash back arrestors.</p>
9.13	Electrical tools and equipment at the workshop are periodically checked and tagged.	<p>Intent:</p> <p>To verify that quarterly inspection and tagging of electrical tools and equipment is carried out.</p> <p>Personnel:</p> <p>Workshop supervisor, personnel, electrician.</p> <p>Method:</p> <p>View records. Inspect a sample of power tools to see that tagging is attached and current.(Colour code RGBY) Refer to MSIR rr. 5.11 and 5.27(2)(b)</p>

9.14	Electrical welding machines are maintained in a safe condition.	<p>Intent:</p> <p>To verify that electric welding machines are regularly tested and inspected e.g. leads, accessories, earth leakage circuit etc.</p> <p>Personnel:</p> <p>Workshop supervisor, personnel, electrician.</p> <p>Method:</p> <p>Check maintenance records. Interview above mentioned personnel. Refer to MSIR rr. 5.11 and 5.27</p>
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10 Isolation and tagging

Isolation and tagging

Point	Standard	Guideline
10.1	OUT OF SERVICE tags are used to warn against the use of plant which is unsafe to be used or which may be damaged if it is used.	<p>Intent: To verify that OUT OF SERVICE tags are being used when required.</p> <p>Personnel: N/A.</p> <p>Method: Observe the presence of tags in the workplace and that any defective equipment found has been tagged. Rubbish bins can also reveal evidence of tagging usage. Refer to MSIR rr. 6.2 and 6.29.</p>
10.2	DANGER tags are used to prohibit the use of plant on which an employee is undertaking work.	<p>Intent: To verify that DANGER tags are being used when required.</p> <p>Personnel: N/A.</p> <p>Method: View procedures. Observe the presence of DANGER tags in the workplace and ensure that any employees observed undertaking work have isolated the equipment and placed danger tags. Refer to MSIR rr. 6.2 and 6.27</p>
10.3	Each employee removes his own DANGER tag after completing the work and prior to leaving the worksite at the end of the shift.	<p>Intent: To verify that the DANGER tag remains in the control of the person who placed it.</p> <p>Personnel: N/A.</p> <p>Method: View procedures. Observe that the dates and times of tags placed in the workplace are current, and interview any person seen to remove more than one tag. Where possible check the current tag placement against workers present. Refer to MSIR r. 6.27(2)(c)</p>

10.4	OUT OF SERVICE tags are attached prior to removing DANGER tags when work on plant is not completed.	<p>Intent:</p> <p>To ensure that employees at the end of their shift maintain the control of safety where the repair of the equipment is incomplete.</p> <p>Personnel:</p> <p>Management and employees.</p> <p>Method:</p> <p>Review the procedures and enquire about the practice adopted by employees. The significance of the words 'prior to' is to eliminate an unprotected period.</p>
10.5	The effectiveness of devices used to isolate plant is proved prior to attaching DANGER or OUT OF SERVICE tags.	<p>Intent:</p> <p>To verify as far as is practicable that the plant is isolated from the respective energy sources. Accidents have occurred as a result of switching the wrong isolating device, incorrect labelling, and isolating mechanism failures.</p> <p>Personnel:</p> <p>Employees.</p> <p>Method:</p> <p>Discuss with employees currently undertaking work, and assess the method adopted for proving that the isolation is effective. This may be accomplished by visual inspection, opening drain valves, attempting to start the equipment, observing indicators, use of test instruments or other appropriate means. Refer to MSIR r. 6.27(2)</p>

11 Emergency plan

Emergency plan

Point	Standard	Guideline
11.1	The operation has prepared an emergency plan.	<p>Intent: To verify that the site is equipped and prepared for applicable emergencies.</p> <p>Personnel: Registered manager.</p> <p>Method: View the Emergency Plan document. Refer to MSIR r. 4.30</p>
11.2	The emergency plan is known by the site personnel.	<p>Intent: To verify that personnel are aware of their responsibilities and actions in an emergency.</p> <p>Personnel: Registered manager, quarry manager, underground manager, supervisors and employees.</p> <p>Method: Question mine personnel as to their responsibilities in an emergency and the detail of the plan. Refer to MSIR r. 4.30</p>
11.3	The emergency plan includes a means of employee and visitor control.	<p>Intent: To verify the existence of a system to account for all persons in an emergency.</p> <p>Personnel: Registered manager.</p> <p>Method: View the emergency plan methodology, employee attendance list and visitor register. Refer to MSIR r. 4.30</p>
11.4	The emergency plan identifies the types of incidents which may affect the site.	<p>Intent: To verify that possible incidents likely to result in an emergency have been identified.</p> <p>Personnel: Registered manager.</p> <p>Method: View the emergency plan documentation. Refer to MSIR r. 4.30</p>

11.5	On-site first aid services and facilities are available at the site.	<p>Intent: To verify that immediate first aid is available so as to stabilise accident victims prior to the arrival of offsite or remote resources.</p> <p>Personnel: Registered manager, employees.</p> <p>Method: View first aid facilities, medicines and resuscitation equipment. Check if one or more persons at the mine are qualified in first aid or, so far as is practicable, senior first aid. Refer to MSIR rr. 4.24 and 4.25</p>
11.6	On-site fire fighting resources, include trained personnel are available.	<p>Intent: To verify that fire fighting equipment and trained site personnel are available to deal with any fire in a safe consistent manner.</p> <p>Personnel: Registered manager, employees.</p> <p>Method: View fire fighting equipment and training records. Refer to MSIR r. 4.30(2)(c)</p>
11.7	Muster points are installed at the site.	<p>Intent: To verify that safe locations have been established where personnel must gather and be accounted for in an emergency.</p> <p>Personnel: Registered manager.</p> <p>Method: View the muster point locations for signage and adequacy in terms of safe separation from any likely dangers. Refer to MSIR r. 4.10(1)(d)</p>
11.8	Underground sites have established a mine rescue capability including SCBA, fire fighting resources and trained personnel.	<p>Intent: To verify that the site is equipped to deal with underground emergencies.</p> <p>Personnel: Registered manager, mine emergency team coordinator and employees.</p> <p>Method: View mine rescue equipment, fire fighting equipment and training records. Refer to MSIR r. 4.33</p>