



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

Village: Mechanical audit – guide

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Introduction

The scope of the 'Village' audit documents are designed to include operating standards associated with the management of villages, camps and accommodation facilities (mining infrastructure) associated with mining operations.

These audits were developed in 2016 and they are currently being trialled and assessed by the Department. They have also been made available to industry. Minor updates and typographical changes were made in June 2017 and the content will continue to be reviewed, and where appropriate updated, over the coming months.

The four 'Village' audit documents cover:

- Village: Occupational health and safety (OHS)
This broadly covers the safety standards associated with the management of occupational health and safety (OHS) matters (including aspects associated with administration, management, training, dangerous goods, traffic management, storage, food preparation, safety and health representatives, personal protective equipment and general aspects) at a village on a mine.
- Village: Infrastructure
This broadly covers the safety standards associated with the management of infrastructure matters (including aspects associated with mobile, prefabricated and permanent buildings and/or structures) at a village on a mine.
- Village: Electrical
This broadly covers the safety standards associated with the management of electrical matters (including management and technical aspects) at a village on a mine.
- Village: Mechanical
This broadly covers the safety standards associated with the management of mechanical matters (including aspects associated with workshops and other areas) at a village on a mine.

These audits have been developed to assist duty holders in their compliance with legal requirements under the mines safety legislation and other relevant legislation (e.g. Building Code of Australia), and to achieve good practice in village accommodation in the Western Australian mining industry. Though every effort has been made, the content is not exhaustive and duty holders should ensure they conduct a specific review of the mines safety legislation, and other state and national legislation (as applicable) to ensure compliance.

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.

Accommodation situations cover the spectrum from long-term village accommodation to more transient camp arrangements (e.g. exploration camps). These audits have primarily been designed to address the fundamental aspects associated with village accommodation. However duty holders for more transient arrangements may find parts of the content applicable. Every effort should be made to risk assess and manage change as accommodation evolves.

Audits should be carried out by competent persons, properly authorised and appointed by the registered manager of the mine site.

While the occupational health and safety (OHS) audit is expected to take around 4 to 6 hours to complete, each of the other audits is expected to take less than 4 hours to complete, provided all necessary documentation is readily available and there is free access to all areas to inspect.

List of abbreviations

AS	Australian Standard
BCA	Building Code of Australia – is a requirement of the Western Australian Building Act and Building Regulations 2012
ELR	Electricity (Licensing) Regulations 1991
GP	Good practice – villages would be expected to adopt and achieve industry

	standards
ISO	International Standards Organisation
LR	Legal requirement – villages are expected to have addressed these items
MSIA	<i>Mines Safety and Inspection Act 1994</i>
MSIR	Mines Safety and Inspection Regulations 1995
NCC	National Construction Code series – is a requirement of the <i>Western Australian Building Act 2011</i> and Building Regulations 2012
NZS	New Zealand Standard
PPE	Personal Protective Equipment
SRS	The Department of Mines and Petroleum’s online Safety Regulation System
r.	Regulation (of the MSIR)
rr.	Regulations (of the MSIR)
s.	Section (of the MSIA)
ss.	Sections (of the MSIA)

Supporting documentation

Documentation referred to in the village audits can be found via the links below:

- State Law Publisher, www.slp.wa.gov.au
 - *Mines Safety and Inspection Act 1994*
 - Mines Safety and Inspection Regulations 1995
 - Electricity (Licensing) Regulations 1991
- Department of Mines and Petroleum (DMP), mining safety publications, www.dmp.wa.gov.au/Safety/Mining-Safety-publications-16162.aspx
 - *Accident and incident reporting – guideline*
 - *Management of noise in Western Australian mining operations – guideline*
 - *Prevention and management of violence, aggression and bullying at work – code of practice*
- Department of Mines and Petroleum (DMP), General exemption: Approval for fit person to inspect classified plant, www.dmp.wa.gov.au/Safety/What-are-the-requirements-for-7947.aspx
 - *General exemption from Mine Safety and Inspection Regulation 6.40(1) and 6.40(3) (dated 5/12/2003)*
- *Safe Work Australia, Publications and resources*, www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/publication
 - *Hazardous Manual Tasks Model Code of Practice*
 - *National Standard for the Storage and Handling of Workplace Dangerous Goods [NOHSC:1015(2001)]*
 - *Industrial lift trucks guidance material*
- Department of Commerce, WorkSafe, High risk work licensing, www.commerce.wa.gov.au/worksafe/high-risk-work-licence
- National Transport Commission, Australian Dangerous Goods Code (Edition 7.4), www.ntc.gov.au/heavy-vehicles/safety/australian-dangerous-goods-code/
- Department of Health (WA), Australian drinking water guidelines, www.public.health.wa.gov.au/3/657/2/australian_drinking_water_guidelines.pm
- Australian Environmental Pest Managers Association, Industry codes of practice www.aepma.com.au/Codes-of-Practice
 - *Code of practice for Pest Management in the Food Industry in Australia and New Zealand*
- Food standards Australia New Zealand, Australia New Zealand Food Standards Code, www.foodstandards.gov.au/code/Pages/default.aspx
- Standard 3.2.2 *Food Safety Practices and General Requirements* (Australia only)
- Australian and other standards, SAI Global, <http://infostore.saiglobal.com/store/>
 - AS 1170 *Structural design actions – General principles*
 - AS 1170.1 *Structural design actions – Permanent, imposed and other actions*
 - AS 1319 *Safety signs for the occupational environment*
 - AS 1657 *Fixed platforms, walkways, stairways and ladders – Design, construction and installation*
 - AS 1940 *The storage and handling of flammable and combustible liquids*

- AS 2359.1 *Powered industrial trucks – Powered industrial trucks*
- AS 2444 *Portable fire extinguishers and fire blankets – Selection and location*
- AS 3780 *The storage and handling of corrosive substances*
- AS 4084 *Steel storage racking*
- AS 4282 *Control of the obtrusive effects of outdoor lighting*
- AS 4332 *The storage and handling of gases in cylinders*
- AS 4452 *The storage and handling of toxic substances*
- AS 4801 *Occupational health and safety management systems – Specification with guidance for use*
- AS 5104 *General principles on reliability for structures*
- AS ISO 13822 *Basis for design of structures – Assessment of existing structures*
- AS/NZS 1680 *Interior lighting – Safe movement*
- AS/NZS 1891 *Industrial fall-arrest systems and devices*
- AS/NZS 3000 *Electrical installations (known as the Australian/New Zealand Wiring Rules)*
- AS/NZS 4600 *Cold-formed steel structures*
- AS/NZS ISO 9000 *Quality management systems – Fundamentals and vocabulary*
- AS/NZS ISO 31000 *Risk management – Principles and guidelines*

1 Workshops and facilities

Workshops and facilities

Point	Standard	Guideline
1.1	Appropriate storage is available for all tools and inventory (e.g. drills, bolts, boxes, mowers, store items, chemicals etc.)	<p>Intent:</p> <p>To ensure that appropriate storage is available for all items kept in the workshop (e.g. hand tools, gardening equipment, spare parts, PPE, electrical appliances, chemicals etc.).</p> <p>To ensure that storage has been designed by a competent person and the rated capacity is identifiable.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Observation</p>
1.2	Store yard is maintained in a safe condition and free from hazards	<p>Intent:</p> <p>To verify that inspections of the store yard are carried out as per MSIR 3.22.</p> <p>To ensure that all items in the area have a designated storage location and that items are stored safely in the designated location. To ensure that all walkways and other infrastructure in the area is maintained fit for purpose.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Observation</p>
1.3	Fuel storage facilities are maintained in a safe condition (e.g. licences, bund, signage, pipes, drains)	<p>Intent:</p> <p>To verify that all pressure piping is compliant with AS1200, and all plant is maintained in accordance with the design intent.</p> <p>To verify the emergency plan caters for flammable materials emergencies.</p> <p>To ensure that flammable materials storage is designed, constructed and maintained in a safe condition.</p> <p>To ensure that fire protection is in place.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Observation, review emergency plan Refer to AS 1940. Refer to MSIR 6.26, 6.22 and 4.30.</p>

1.4	Gas storage facilities are maintained in a safe condition (e.g. barricades, signage, isolation function)	<p>Intent:</p> <ul style="list-style-type: none"> To ensure that gas cylinders are stored in a designated location, where they are restrained and protected from mechanical damage. To ensure that gas cylinders containing gasses of incompatible classes are separated. To ensure that dangerous goods signs are in place. <p>Personnel:</p> <ul style="list-style-type: none"> As required <p>Method:</p> <ul style="list-style-type: none"> Observation. Refer to AS 4332 and MSIR 4.10
1.5	Battery charging stations and storage are maintained in a safe condition	<p>Intent:</p> <ul style="list-style-type: none"> To ensure that battery storage and charging locations have adequate ventilation. To ensure that hazards associated with battery charging are risk assessed and controlled <p>Personnel:</p> <ul style="list-style-type: none"> As required <p>Method:</p> <ul style="list-style-type: none"> Observation and interview relevant personnel.

2 General aspects

General aspects

Point	Standard	Guideline
2.1	Registered classified plant: <ul style="list-style-type: none"> • a record book is available and kept up to date • records (e.g. certificates, maintenance records) are kept and available • there is an appointed classified plant inspector 	<p>Intent:</p> <p>To verify that classified plant has been inspected according to an appropriate schedule and records of these inspections have been maintained. To ensure that there is a person responsible for the management and inspection of registered classified plant.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Interview. View documentation e.g. classified plant register and classified plant record book. Conduct inspections to ascertain if there are any items of classified plant used at the mine that are not compliant in respect to registration requirements. Refer to MSIR 6.34(1) and 6.34(5). View appointment documentation. Refer to MSIR 6.40 and 6.25. Refer to general exemption from Mines Safety and Inspection Regulations 6.40(1) and 6.40(3) (dated 5/12/2003)</p>
2.2	Classified plant (e.g. pressure vessels, boilers and cranes) complies with the relevant Australian Standard	<p>Intent:</p> <p>To verify that classified plant was designed, constructed and tested in accordance with the relevant Australian Standard. To ensure that that plant is inspected according to acceptable practices meeting the requirements of the relevant Australian Standards.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>View classified plant records. View a number of completed inspection checklists, report forms and/or procedures. Refer to MSIR 6.33</p>
2.3	Load ratings are clearly displayed on relevant plant (e.g. golf carts, bin lifters, vehicle-mounted cranes)	<p>Intent:</p> <p>To verify that the relevant capacities are clearly identified on all equipment exposed to variable loads.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Observation. Refer to MSIR 6.21 and 6.33</p>

2.4	All moving equipment which creates a risk of injury from inadvertent contact is guarded	<p>Intent:</p> <p>To verify that any moving machinery which creates a risk of injury through inadvertent contact is guarded to prevent such contact. To ensure that all guards fitted require a tool or key to remove.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Refer to MSIR 4.4, 6.2 and 6.27.</p>
2.5	All equipment with hot or cold parts (which creates a risk of injury from inadvertent contact) is guarded or insulated (e.g. generator exhausts, refrigerant lines)	<p>Intent:</p> <p>To verify that hot or cold parts of plant are adequately guarded or insulated to reduce, so far as is practicable, the risks of exposure to any hazard relating to those parts.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Observation. Refer to MSIR 6.28</p>
2.6	Use of all equipment (including workshop tools such as drill press or pedestal grinder) is risk assessed and controlled This could include measures such as guarding, additional signage, PPE, emergency stops, lighting and position.	<p>Intent:</p> <p>To verify that all reasonably foreseeable hazards associated with a piece of plant, have been risk assessed and controlled.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Observation, view example risk assessments and work procedures. Refer to MSIR 6.17-6.18</p>
2.7	Fall arrest equipment is maintained and available for work at heights	<p>Intent:</p> <p>To ensure that equipment that is required for work at heights is made available to relevant employees and is maintained in a safe condition.</p> <p>Personnel:</p> <p>As required</p> <p>Method:</p> <p>Observation, interview employees to determine what working at heights is relevant. Refer to AS/NZS 1891</p>

2.8	Adequate maintenance schedules are in place for all plant and equipment (mechanical garden tools, mobile equipment, fixed plant)	<p>Intent: To ensure that there is a documented maintenance regime for all plant which is intended to maintain it in safe operating condition.</p> <p>Personnel: As required</p> <p>Method: View maintenance strategy/scheduling system. View maintenance records.</p>
2.9	All vehicles have seat belts fitted	<p>Intent: To verify that all vehicles have functional seat belts fitted for all occupants</p> <p>Personnel: As required</p> <p>Method: Observation. Refer to MSIR 4.16</p>
2.10	Pressure equipment is maintained to the relevant Australian Standard	<p>Intent: To verify that pressure equipment covered by AS1200 is inspected, operated and maintained in accordance with AS3788, AS3873 or AS2593, where applicable. To verify that gas cylinders are inspected and maintained in accordance with AS2030</p> <p>Personnel: As required</p> <p>Method: Observation, view equipment inspection and maintenance records. Check pressure relief valve settings and calibration records. Refer to MSIR 6.26</p>