



Government of **Western Australia**  
Department of **Mines and Petroleum**  
Resources Safety

## **Guide to workshops HIF audit 2010**

**June 2010**

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# 1 Building

Point	Standard	Guideline
1.1	There is a suitable building provided for use as a workshop.	<p><b>Intent:</b> To ensure that workshop activities can be carried out safely and efficiently.</p> <p><b>Personnel:</b> Manager. Senior engineer.</p> <p><b>Method:</b> Observation.</p>
1.2	Consideration has been given to managing traffic flow in relation to the building.	<p><b>Intent:</b> To ensure that traffic in the vicinity does not present a hazard.</p> <p><b>Personnel:</b> Workshop manager. Supervisor.</p> <p><b>Method:</b> Review documents which indicate that traffic hazards around the workshop have been considered. Check for any obvious obstructions in the workshop area and traffic demarcation signage.</p>
1.3	The building has provision for heating and ventilation.	<p><b>Intent:</b> To ensure that workshop activities can continue irrespective of the climate.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation and interview workshop personnel.</p>
1.4	Illumination is provided in the workshop.	<p><b>Intent:</b> To ensure that workshop activities can continue at any hour.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation and interview workshop personnel.</p>
1.5	Required emergency exit doorways are indicated with illuminated signs.	<p><b>Intent:</b> To ensure that doorways for emergency exit are clearly identifiable.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation and interview persons in workshop to determine if location of exits is known.</p> <p>Refer to MSIR 4.31.</p>
1.6	A washroom and toilets are available for workshop personnel.	<p><b>Intent:</b> To ensure that all personnel have access to hygiene facilities.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation and interview workshop personnel.</p>

Point	Standard	Guideline
1.7	Service piping in the workshop is colour coded or labelled.	<p><b>Intent:</b> To ensure that gas, compressed air, water, lubricant, etc. piping in the workshop has been identified and marked as to content, direction and pressure.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel to determine if piping use is known.</p>
1.8	The building doors are easy to operate.	<p><b>Intent:</b> To ensure that the doors of the building can be opened or closed without hazard.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observe operation of the doors and interview workshop personnel.</p>
1.9	Electrical panels are in areas free of combustible material and have unobstructed access.	<p><b>Intent:</b> To minimise fire risk and ensure access for isolation purposes or in an emergency.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
1.10	Electrical distribution enclosures, connection boxes and panels are properly closed.	<p><b>Intent:</b> To restrict access to unauthorised persons.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
1.11	Electrical cabling is properly supported on cable trays or in conduits.	<p><b>Intent:</b> To protect the cables from mechanical damage.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>

## 2 Emergency requirements

Point	Standard	Guideline
2.1	Fire control equipment requirements have been determined for the types of fires that may occur.	<p><b>Intent:</b> To ensure that a survey has been conducted to verify that the fire control equipment provided is correct for the types of fires that may occur.</p> <p><b>Personnel:</b> Workshop manager.</p> <p><b>Method:</b> View survey document.</p> <p>Refer to AS4428 - Fire detection.</p>
2.2	Fire control equipment is available and current.	<p><b>Intent:</b> To ensure that fire control equipment is available for immediate use at the workshop.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> View documentation to indicate that regular inspection is made of fire equipment; check a sample of equipment tags.</p>
2.3	Signs are provided at the location of fire control equipment.	<p><b>Intent:</b> To ensure that fire control equipment can be easily located when required.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p> <p>Refer to AS 2444 – Fire extinguishers.</p>
2.4	Access to fire control equipment is unobstructed.	<p><b>Intent:</b> To ensure that clear access to fire control equipment is maintained.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
2.5	Workshop personnel have been trained in the use of fire control equipment.	<p><b>Intent:</b> To ensure that personnel can use fire control equipment if required.</p> <p><b>Personnel:</b> Workshop personnel. Training officer.</p> <p><b>Method:</b> View emergency procedure documentation and training records.</p>
2.6	Fire control drills are held regularly.	<p><b>Intent:</b> To ensure that personnel are practised in the use of fire control equipment.</p> <p><b>Personnel:</b> Workshop personnel. Safety officer.</p> <p><b>Method:</b> Interview workshop personnel, safety officer. Sight list of attendees at fire control drill.</p>

Point	Standard	Guideline
2.7	A safety shower/eyewash is provided where hazardous chemicals are in use.	<p><b>Intent:</b> To ensure that a safety shower/eyewash is available where corrosives such as battery acid or caustic baths are used.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p> <p>Refer to AS 4775 – Emergency eye wash &amp; shower.</p>
2.8	Unobstructed access to safety showers/eyewashes is maintained.	<p><b>Intent:</b> To ensure that the emergency facilities can be accessed without hindrance.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
2.9	First aid facilities are provided.	<p><b>Intent:</b> To ensure that first aid facilities are available for typical injuries such as burns, minor cuts and abrasions, electric shock, etc.</p> <p><b>Personnel:</b> Workshop manager. Safety personnel.</p> <p><b>Method:</b> View facilities and procedures.</p>
2.10	Material Data Safety Sheets (MSDS) are available for all products used in the workshop.	<p><b>Intent:</b> To ensure that emergency information in respect of potentially hazardous substances is immediately available.</p> <p><b>Personnel:</b> Workshop manager.</p> <p><b>Method:</b> View documentation.</p>
2.11	Clean up kits for chemical, oil/fuel spillages are available.	<p><b>Intent:</b> To ensure that the effects of accidental contamination can be minimised.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
2.12	An OSH noticeboard is located at the workshop displaying current OSH information.	<p><b>Intent:</b> To ensure that a noticeboard is available in the workshop for the posting of safety information.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation.</p>

### 3 Slip / trip hazards

Point	Standard	Guideline
3.1	The workshop has a concrete floor with known load limits.	<p><b>Intent:</b> To ensure that the workshop has a floor that can be kept clean and is suitable for activities such as jacking up heavy equipment, providing foundations for machine tools etc.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel on the suitability of the workshop floor.</p>
3.2	The condition of the workshop floor, and any inspection pit, does not create slip or trip hazards.	<p><b>Intent:</b> To ensure that the surface of the workshop floor is maintained clear of mud, oil, grease, etc.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel on the condition of the floor over time. Refer to AS 3661.2 - Slip resistance.</p>
3.3	Drains and pits capture contaminated wash water for treatment, and are covered or protected.	<p><b>Intent:</b> To ensure that the environment is protected and there are no drains creating hazards to persons on foot or operating small mobile plant.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation.</p>
3.4	Inspection pit areas are covered or protective barriers are provided and used.	<p><b>Intent:</b> To ensure that fall hazards at inspection pit areas have been addressed.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel on the rules for the replacement of inspection pit protection.</p>
3.5	The walkway areas at the workshop are colour defined and free from obstruction.	<p><b>Intent:</b> To ensure walkway traffic areas are marked as such and are available.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observe demarcation and employee compliance with it.</p>
3.6	Racks and shelving are provided for the storage of materials used at the workshop.	<p><b>Intent:</b> To ensure that steel sections, plate and other materials are stored suitably and safely.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel on where materials are stored.</p>

Point	Standard	Guideline
3.7	Mobile and transportable tools and equipment used at the workshop have a designated storage area.	<p><b>Intent:</b> To ensure that tools and equipment used at the workshop are stored suitably and safely.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel on where tools and items used in the workshop are stored.</p>
3.8	Containers of liquids such as chemicals, oils, etc., are stored in bunded areas.	<p><b>Intent:</b> To minimise the effects of any accidental spillage.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation.</p>
3.9	Drip trays are used where liquids are decanted from bulk containers.	<p><b>Intent:</b> To minimise the effects of any accidental spillage.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation.</p>
3.10	Loose material and debris is cleared from the workshop floor as soon as is practicable.	<p><b>Intent:</b> To ensure that rubbish is cleared from the workshop floor before becoming a hazard.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel to determine how often the workshop floor is cleaned up.</p>
3.11	Means are provided for the disposal of waste material.	<p><b>Intent:</b> To ensure that waste disposal facilities such as bins and waste oil containers are provided.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel on where waste materials are disposed of.</p>
3.12	Signs are provided to warn of potential slip hazards.	<p><b>Intent:</b> To ensure that signage is used to warn persons of potential slip hazards resulting from spills, etc.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation of signs. Interview workshop personnel.</p>

## 4 Machinery

Point	Standard	Guideline
4.1	A risk assessment has been done of the fixed workshop machinery in regard to the provision of emergency stop equipment.	<p><b>Intent:</b> To ensure that machines such as pedestal drills, lathes, etc. are risk assessed for the need to provide emergency stop devices.</p> <p><b>Personnel:</b> Workshop manager.</p> <p><b>Method:</b> Observation. Interview workshop personnel.</p>
4.2	The fixed workshop machines, identified in the risk assessment as requiring emergency stop provisions, have operational emergency stops fitted.	<p><b>Intent:</b> To ensure that machines such as pedestal drills, lathes, etc. are fitted with operational emergency stop devices where required.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel.</p>
4.3	Workshop machinery is guarded to prevent eye damage hazards and nip point hazards.	<p><b>Intent:</b> To ensure that machines e.g. grinders, drills, saws, shears, benders, lathes, woodworking machines, etc. have drive guards and other devices to contain possible hazards.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel to determine if guards are always in place.</p> <p>Refer to AS 4024.1 – Safety of machinery.</p>
4.4	Fixed machinery is securely anchored down as required.	<p><b>Intent:</b> To ensure machinery is adequately secured to prevent unintended movement.</p> <p><b>Personnel:</b> N/A</p> <p><b>Method:</b> Observe anchoring provisions.</p>
4.5	Signs are posted to warn of machine operating hazards.	<p><b>Intent:</b> To ensure that machinery operating hazards are identified by signs displayed adjacent to the machine.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observe major machines such as guillotines, presses, lathes and saws, etc.</p>
4.6	Persons are trained in the use of machinery.	<p><b>Intent:</b> To ensure that machinery is used by certified tradesmen or persons specifically trained to use those items.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View training records. Interview workshop personnel as to the training they have obtained.</p>

Point	Standard	Guideline
4.7	Machinery in the workshop is adequately maintained.	<p><b>Intent:</b> To ensure that machinery is safe for use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View maintenance records. Interview workshop personnel on how often maintenance is done.</p>
4.8	Manufacturer's manuals are kept for machinery operation and maintenance.	<p><b>Intent:</b> To ensure that the machinery can be operated and maintained as intended.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View manuals. Check that sections are provided on operation and maintenance.</p>
4.9	Classified plant located in the workshop is maintained and inspected in accordance with requirements.	<p><b>Intent:</b> To ensure that classified plant is safe for use.</p> <p><b>Personnel:</b> Workshop manager.</p> <p><b>Method:</b> Interview. View documentation.</p>

## 5 Lifting equipment

Point	Standard	Guideline
5.1	Monorails and overhead cranes have been designed and constructed to recognised engineering standards.	<p><b>Intent:</b> To ensure that a monorail or overhead crane has been designed and constructed to AS 1418.</p> <p><b>Personnel:</b> Workshop manager. Engineer.</p> <p><b>Method:</b> Observation. View documentation to show installation compliance. Such documentation may include design drawings, compliance certificates and markings, deflection test results, etc.</p> <p>Refer to AS 1418 – Cranes, etc. Refer to MSIR 6.34.</p>
5.2	Training is provided in the use of the cranes installed.	<p><b>Intent:</b> To ensure that employees can use the cranes safely.</p> <p><b>Personnel:</b> Workshop personnel. Training officer.</p> <p><b>Method:</b> Verify by observation of training records and interview workshop personnel.</p>
5.3	Crane operators hold a current licence under the national competency based licensing system or transitional equivalent.	<p><b>Intent:</b> To ensure that operators meet competency requirements.</p> <p><b>Personnel:</b> Workshop personnel. Training officer.</p> <p><b>Method:</b> View licence documents and training records.</p>
5.4	Fixed workshop cranes are inspected and maintained.	<p><b>Intent:</b> To ensure that workshop cranes are safe for use.</p> <p><b>Personnel:</b> Workshop personnel. Engineers.</p> <p><b>Method:</b> Interview workshop personnel and view records.</p> <p>Refer to MSIR 6.40.</p>
5.5	Access to overhead travelling crane electrical busbar areas is restricted.	<p><b>Intent:</b> To ensure that potentially hazardous areas are not readily accessible.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation.</p>
5.6	Approved lifting equipment is suitably marked and a register is maintained.	<p><b>Intent:</b> To ensure that lifting equipment is safe for use.</p> <p><b>Personnel:</b> Workshop manager.</p> <p><b>Method:</b> Verify by observation of records and inspect workshop lifting equipment.</p>

Point	Standard	Guideline
5.7	Training is provided in the safe use of lifting equipment.	<p><b>Intent:</b> To ensure that employees can use the lifting equipment safely.</p> <p><b>Personnel:</b> Workshop personnel. Training officer.</p> <p><b>Method:</b> Verify by observation of training records and interview workshop personnel. Refer to AS 2550 – Safe use of cranes.</p> <p>Refer to MSIR 4.13.</p>
5.8	A system of inspection and maintenance of lifting equipment by competent persons is provided.	<p><b>Intent:</b> To ensure that lifting equipment is safe for use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Verify by observation and inspection records.</p>
5.9	Damaged lifting equipment is repaired or destroyed.	<p><b>Intent:</b> To ensure that unsafe lifting equipment cannot be used.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Verify by observation of available lifting equipment and interview workshop personnel.</p>

## 6 Welding and pressure gas equipment

Point	Standard	Guideline
6.1	Welding power sources used for “metal arc welding” and/or “air arc gouging” which have a nameplate open-circuit voltage output exceeding 35v DC or 25v AC are fitted with a hazard reducing device (trigger switch or voltage reducing device).	<p><b>Intent:</b> To safeguard persons from harmful electric shocks.</p> <p><b>Personnel:</b> Electrical supervisor.</p> <p><b>Method:</b> Observe nameplate voltage.</p> <p>Refer to the Welding Technology Institute of Australia, Code of Practice Tech. Note 7.</p>
6.2	Electric welding machines are inspected and tested quarterly.	<p><b>Intent:</b> To ensure that the leads/accessories and electrical circuits are safe for use.</p> <p><b>Personnel:</b> Electrical supervisor.</p> <p><b>Method:</b> View maintenance documents. Interview workshop personnel/electrician on maintenance procedures.</p> <p>Refer to Mines Safety Bulletin No. 23.</p>
6.3	Electric welding leads and accessories are inspected monthly.	<p><b>Intent:</b> To ensure that the leads/accessories and electrical circuits are safe for use.</p> <p><b>Personnel:</b> Electrical supervisor.</p> <p><b>Method:</b> View maintenance documents. Interview workshop personnel/electrician on maintenance procedures.</p> <p>Refer to Mines Safety Bulletin No. 23.</p>
6.4	The leads of electrical welding machines are free from insulation damage and other defects.	<p><b>Intent:</b> To ensure that electrical welding leads are safe for use.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p> <p>Refer to AS 1674.2 – Safety in welding.</p>
6.5	Damage to the electric welding hand pieces is not evident.	<p><b>Intent:</b> To ensure that the electrical welding handpieces are free from damage that could cause a possible personal electrical hazard.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
6.6	The building structure is not used as part of the work return circuit of electric welding machines.	<p><b>Intent:</b> To ensure the risk of electric shock or electrocution is minimised.</p> <p><b>Personnel:</b> Electrical supervisor. Welders.</p> <p><b>Method:</b> Observation. Interview personnel.</p>

Point	Standard	Guideline
6.7	Protective screens are used to reduce the intrusion of welding flash to other workshop areas.	<p><b>Intent:</b> To ensure that workshop personnel are protected from welding flash hazards.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel on the use of protective welding screens.</p>
6.8	Welding fume extraction facilities are provided and used.	<p><b>Intent:</b> To ensure that hazardous welding fumes can be extracted from the workshop.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation. Interview workshop personnel to determine the use of fume extraction equipment.</p>
6.9	Flashback arrestors are adequately sized and fitted to portable and mobile oxy-fuel gas systems for welding, cutting and heating metal.	<p><b>Intent:</b> To ensure that the potential for a flashback is minimised.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation. Check that flashback arrestors are fitted to each end of the hoses when using pressurised oxygen with a fuel gas. Note: This does not apply to a fuel gas cylinder that is used with atmospheric air.</p> <p>Flashback arrestors must be of correct type and size recommended by the manufacturer. A reference is AS 4603 for guidance on markings and types of flashback arrestors.</p>
6.10	Gas equipment hoses are not excessive in length and are free from damage.	<p><b>Intent:</b> To ensure that gas hoses are safe for use.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation. So far as is practicable, hose length should not be greater than 15m. Ideally, the operator of the handheld equipment should be in sight of the supply cylinders.</p> <p>Refer to AS 4839-2001 section 6.5.</p>
6.11	Gauges, handpieces and associated accessories for gases are not damaged.	<p><b>Intent:</b> To ensure that gas equipment is in good condition and free from damage likely to result in gas leaks.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
6.12	Cylinders for different gases are stored separately.	<p><b>Intent:</b> To ensure that oxidising gases are stored separately to flammable gases (Reference AS 1596 section 5.6.1(c)).</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>

Point	Standard	Guideline
6.13	All gas cylinders are restrained.	<p><b>Intent:</b> To ensure that cylinders containing gases are restrained during use, transport and storage (AS 2030.1, section 10.5 and 10.6).</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
6.14	Gas cylinders, including manifold packs, are stored such as to minimise impact damage.	<p><b>Intent:</b> To ensure that there is minimum risk of damage to gas cylinders.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation.</p>
6.15	Hot work procedures are in use.	<p><b>Intent:</b> To ensure that the hazards of hot work are always taken into account.</p> <p><b>Personnel:</b> Workshop supervisor. Welders.</p> <p><b>Method:</b> Interview personnel.</p>
6.16	MSDS for welding consumables are current and readily accessible.	<p><b>Intent:</b> To ensure personnel have safety information available.</p> <p><b>Personnel:</b> Welders.</p> <p><b>Method:</b> Interview personnel.</p>

## 7 Temporary work structures

Point	Standard	Guideline
7.1	Where temporary work structures are used the structures are engineered for the intended work and incorporate fall prevention means.	<p><b>Intent:</b> To ensure that temporary work structures for accessing large mobile plant are designed and built to the best engineering and safety principles.</p> <p><b>Personnel:</b> Workshop supervisor.</p> <p><b>Method:</b> View design documents, supplier's literature etc. Interview workshop supervisor to determine if hazards have been addressed.</p> <p>Refer to MSIR 6.3.</p>
7.2	Temporary work structures are inspected for damage and repairs are in accordance with design principles.	<p><b>Intent:</b> To ensure that repairs to temporary work structures are satisfactory.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View inspection documents. Interview workshop personnel to determine if temporary work structures are inspected and repaired.</p>
7.3	Temporary work structures incorporating scaffolding are erected by competent persons.	<p><b>Intent:</b> To ensure that temporary work structures incorporating scaffolding are safe for use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Interview personnel.</p>

## 8 Equipment for servicing mobile plant

Point	Standard	Guideline
8.1	Wheel chocks are provided and used at the workshop.	<p><b>Intent:</b> To ensure that equipment can be safely parked before being worked on.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation. Interview workshop personnel to determine if wheel chocks are used at all times.</p>
8.2	Jacking equipment used in the workshop is load rated and maintained.	<p><b>Intent:</b> To ensure that stationary and mobile jacking equipment is safe for use.</p> <p><b>Personnel:</b> Workshop personnel. Supervisor.</p> <p><b>Method:</b> View documentation to show that inspection and maintenance of jacking equipment is done. Observe condition of jacking equipment.</p>
8.3	Purpose designed vehicle stands are used in the workshop.	<p><b>Intent:</b> To ensure that vehicle stands are used in place of sundry blocking items to support vehicles.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel to determine what methods are used for supporting vehicles to be worked on.</p>
8.4	Vehicle stands are inspected and maintained.	<p><b>Intent:</b> To ensure that vehicle stands are safe for use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. View documents indicating that inspection and maintenance has been carried out on vehicle stands.</p>
8.5	Training is provided on the safe use of jacking equipment and the use of equipment supports.	<p><b>Intent:</b> To ensure that persons who use jacking and support equipment are trained and aware of the hazards that can occur with incorrect use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View training records. Interview workshop personnel to determine what training has been given for the safe use of jacking and support equipment.</p> <p>Refer to MSIR 4.13.</p>
8.6	Vehicle hoists are load rated and maintained.	<p><b>Intent:</b> To ensure that vehicle hoists are safe for use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. View hoist records to determine maintenance frequency.</p>

Point	Standard	Guideline
8.7	Persons are trained to use vehicle hoists.	<p><b>Intent:</b> To ensure that persons using a vehicle hoist are trained and are aware of the hazards that can occur with incorrect use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View training records. Interview personnel.</p>

## 9 Tyre handling and inflation

Point	Standard	Guideline
9.1	Large mobile equipment tyres are handled using machinery designed for the purpose.	<p><b>Intent:</b> To ensure that large tyres can be safely handled.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View equipment. Interview workshop personnel on the use of mechanical tyre handling and fitting equipment.</p>
9.2	Size permitting, a tyre restraining device is used for the safe inflation of tyres.	<p><b>Intent:</b> To ensure that tyres can be safely inflated.</p> <p><b>Personnel:</b> N/A.</p> <p><b>Method:</b> Observation. Typical restraining device is a tyre cage.</p> <p>Check that suitable documented procedures are available and training is provided to operatives.</p> <p>Useful references are DMP Significant Incident Reports 5, 72, 83, and 124; and Mines Safety Bulletin 36.</p>
9.3	A stand-off inflation device is used to protect persons while inflating off-the-road earthmover size tyres.	<p><b>Intent:</b> To ensure that large earthmovers are inflated in a safe manner.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel to determine if a stand-off inflation device is used when tyres are inflated. Tyre pressure should be continuously monitored via a suitably scaled gauge from a safe distance.</p> <p>Refer to AS 4457.1 – 2007 Earth-moving machinery – Off-the-road wheels, rims, and tyres – Maintenance and repair – Wheel assemblies and rim assemblies.</p>
9.4	Tyre inflation equipment, including pressure gauges, is not damaged.	<p><b>Intent:</b> To ensure that air hose fittings and gauges can be safely used.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel to determine if hoses and gauges used are in good condition.</p>
9.5	Where inert gases are used for tyre inflation then deflation and inflation is carried out in a well ventilated area.	<p><b>Intent:</b> To minimise potential hazards to persons.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. View signage. Interview personnel.</p>

Point	Standard	Guideline
9.6	Persons are trained in the safe mounting and dismounting of tyres and rims and in the inflation of tyres.	<p><b>Intent:</b> To ensure that persons can carry out all work associated with tyres in a safe manner.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View training documents. Interview workshop personnel on what training has been provided.</p> <p>Refer to MSIR 4.13.</p>

## 10 Tools

Point	Standard	Guideline
10.1	Provision is made for the storage of portable power and hand tools.	<p><b>Intent:</b> To ensure that portable tools are stored safely in a designated area when not in use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel.</p>
10.2	Electrical power tools and extension leads are periodically inspected and tagged.	<p><b>Intent:</b> To verify that electrical power tools and extension leads are safe for use.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View electrical records and check tags. Refer to MSIR 5.27(2).</p>
10.3	Tools are regularly inspected and removed from use if damaged by attaching "Out of service" tags.	<p><b>Intent:</b> To ensure that tools are safe for use.</p> <p><b>Personnel:</b> Workshop personnel. Supervisor.</p> <p><b>Method:</b> View documents showing repairs carried out to workshop tools.</p>
10.4	Onsite manufactured tools, provided for use in the workshop, have been designed to an engineering standard.	<p><b>Intent:</b> To ensure that the tools provided are safe for the work to be done.</p> <p><b>Personnel:</b> Workshop manager. Engineer.</p> <p><b>Method:</b> View design drawings. Interview workshop personnel.</p>
10.5	Training is provided in the safe use of tools, especially where unsafe use could prove hazardous to the user.	<p><b>Intent:</b> To ensure that tools are used by certified tradesmen or persons trained to use them safely.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> View training records. Interview workshop personnel in the training they have obtained. Refer to MSIR 4.13.</p>
10.6	The use of hand tools under high loads, such as manual torque multipliers, should be subject to strict control in regard to need, instructions for use and correct maintenance.	<p><b>Intent:</b> To ensure that persons are not exposed to risk from manual tooling that is under high loading.</p> <p><b>Personnel:</b> Workshop manager.</p> <p><b>Method:</b> Interview. Refer to SIR 133.</p>

## 11 Personal protective equipment

Point	Standard	Guideline
11.1	Signs are displayed requiring the wearing of the PPE specific to the work function.	<p><b>Intent:</b> To ensure that personnel are advised as to the PPE requirements.</p> <p><b>Personnel:</b> Workshop personnel. Safety officer.</p> <p><b>Method:</b> Observation. Interview safety officer and workshop personnel as to the PPE provided.</p>
11.2	The selected PPE required to be used in the workshop is provided, used and maintained.	<p><b>Intent:</b> To ensure that personnel can work safely.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop personnel as to the PPE provided.</p>
11.3	Storage facilities are provided for the PPE not currently in use.	<p><b>Intent:</b> To ensure that the PPE is correctly stored.</p> <p><b>Personnel:</b> Workshop personnel.</p> <p><b>Method:</b> Observation. Interview workshop as to what storage facilities are provided for the PPE.</p>
11.4	PPE requirements are periodically reviewed.	<p><b>Intent:</b> To ensure that the PPE is the best suited to the hazard.</p> <p><b>Personnel:</b> Registered manager, workshop personnel, safety and health representatives.</p> <p><b>Method:</b> Sight review documents such as JSAs and SWPs. Interview workshop personnel/manager on the periodic upgrading of the PPE.</p> <p>A useful reference is Standards Australia HB9-1994 Handbook – Occupational personal protection.</p>