AUSTRALIAN MEAT PROCESSOR CORPORATION

WHS guide for maintenance personnel in the meat processing industry

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1.0 Introduction to the work health & safety (WHS) guide

1.1 Who is this guide developed for?

This guide is developed for personnel working in maintenance departments in meat processing plants in the Australian Meat Industry. The guide targets senior maintenance managers, supervisors, foremen, employees, apprentices and trainees in the maintenance departments.

1.2 What is the purpose of this guide?

This guide has been developed to assist maintenance personnel to set up and implement systems, and work safely to help ensure a safe and healthy working environment for everyone associated with maintenance work in meat processing plants.

The methods of achieving this are largely set out in work health and safety legislation and associated support materials (such as Codes of Practice, guidance materials and Australian Standards). This WHS guide outlines the compliance requirements under the new, recently enacted WHS legislation that is essentially the same across the whole of Australia (except for WA and Victoria who haven't yet enacted the new legislation). It should be noted that the new WHS legislation places greater responsibility on senior maintenance managers (who may be deemed 'officers' under the new legislation), and the broadening of responsibilities to extend beyond employees to anyone undertaking activities for the business (including contractors).

The WHS guide focuses on the work of maintenance departments, recognising that the work of maintenance departments in meat processing plants is diverse and frequently high risk, and is changing rapidly largely due to the increasing pace of automation associated with the digital revolution.

1.3 How can the guide be used?

The guide may be used by maintenance personnel as a resource for work health and safety in maintenance work in meat processing plants. The guide covers the main responsibilities and requirements for compliance with WHS legislation in Australia (with the exception of WA and Victoria) and sets out the main systems used to prevent work related accidents and injuries (primarily risk management). It then applies those systems to the management of common hazards in maintenance work in meat processing plants.

The guide may also be used as a resource for maintenance personnel enrolled in either of the WHS units in the Meat Industry Training Package. These units are the core WHS unit at Certificate IV, 'Participate in OH&S risk control process' (MTMCOR403A) and the core unit at Certificate II 'Follow safe work policies and procedures'.

2.0 The importance of health and safety

2.1 Why is health and safety important?

The main reason why health and safety is so important in the workplace is to keep people safe and healthy at work. No-one should be injured or have poor health affects as a result of work.

The work done by the maintenance department in meat processing plants is frequently dangerous. Each year, a high number of workplace accidents result from maintenance and non-production tasks carried out on machinery and equipment. Typically fatalities and injuries related to these tasks result from:

- Prioritising production needs over health and safety
- Failure to isolate machinery and equipment prior to undertaking activities
- A reluctance to supervise workers with specialist knowledge
- Failure to ensure contractors are complying with health and safety requirements
- An over reliance on workers' specialist skills.

Safe Work Australia reports 190 worker fatalities in 2015. This is a similar number to 2013 and 2014. However this is 120 too many. Everyone in the workplace needs to work together and follow health and safety requirements to make sure the workplace is as safe as possible and no-one is injured at work. Additionally governments have work health and safety laws in place to make sure that health and safety is managed in the workplace.

Other compelling reasons why health and safety is so important include:

Financial reasons

Accidents and injuries may incur costs to the injured worker and their family (eg lower income), the company (eg interruption to production, increase in workers compensation premiums, public relations issues) and more broadly to Australia. Safe Work Australia estimates the cost associated with work-related injury and illness to be more than $60 billion dollars per year.

Ethical and moral reasons

Employers have an obligation to protect the health and safety of their employees and anyone else affected by their work activities.

Industrial relations

Poor health and safety may impact on the industrial relations at a site and subsequently affect the operation of the business.

Employee engagement and satisfaction

Involvement of employees in health and safety matters raises awareness and promotes conscious attention to personal safety and the safety of others.

Public relations

If the company is regarded locally as a poor performer in health and safety they may have a bad reputation in the community. This may impact on their ability to attract employees to work in the company especially considering the increasing competition for employees in regional locations where our companies are located.

2.2 Why is health and safety so important in maintenance?

WHS legislation places general (and specific) duties of care on everyone in the workplace to play their roles in ensuring a healthy and safe working environment for all in the workplace. The new, recently introduced WHS legislation broadens the WHS responsibilities of some groups in the workplace. These broadened responsibilities are particularly important for maintenance departments where, under the legislation the most senior managers may be deemed 'officers' and have greater accountability to ensure safe systems of work are in place and operating effectively. The legislation also broadens WHS responsibilities to not only include responsibility for employees but to also include responsibilities for everyone undertaking work activities for the business. This also impacts heavily on maintenance departments making management responsible for contractors, visitors, apprentices, trainees etc conducting work activities in areas they are responsible for.

Considering the high risk nature of much of the work conducted in maintenance departments and the increasingly rapid change in that work associated largely to increasing automation associated with the digital revolution, management needs to have both general management systems and specific WHS management systems in place that can respond to and accommodate change.

Maintenance work is predicted to become increasingly more automated, with new more complex plant replacing more traditional older plant and:

- More automation and increased sophistication of plant placing pressure on servicing and maintenance
- Increasing utilisation of intelligent systems of control and automation
- Updating of machinery to match production requirements including meeting customer requirements
- Improved reliability, fewer repairs required, more preventive maintenance activities
- Increasing use of network connections by external organisations to monitor, report, fault find
- Increasing reliance on external OEM service providers.

3.0 Complying with work health and safety laws

3.1 What are the legal requirements related to health and safety?

Health and safety laws are now essentially the same across the whole of Australia (with the exception of WA and Victoria). This has come about as a result of the federal government health and safety authority, Safe Work Australia developing model WHS laws that have been enacted in each state and territory (except for WA and Victoria who haven't yet enacted the new legislation). WHS laws are enforced by state government WHS authorities in each state. The WHS laws are comprised of a WHS Act that sets out the general responsibilities of all parties in the workplace to ensure a healthy and safe workplace. The WHS Act is supported by WHS Regulations that provide some detail around what companies need to do to comply with the Act.

The WHS Regulations set out legal requirements in relation to a number of areas that are central to the work of maintenance departments. These areas include:

- Hazardous work involving noise, hazardous manual tasks, confined spaces, falls, demolition work, electrical safety and energised electrical work, licensing of high risk work and accreditation of assessors of competency
- Plant and structures
- Construction work
- Hazardous chemicals including lead
- Asbestos
- Major hazard facilities

Codes of practice provide a guide for employers to comply with specific areas of the WHS Act and Regulations. Safe Work Australia has developed a range of model codes of practice. To have legal effect in a jurisdiction a model code of practice must be approved as a code of practice in that jurisdiction. Examples of model codes that are particularly relevant to maintenance include:

- Confined spaces
- Construction work
- Demolition work
- Managing electrical risks at the workplace
- Excavation work
- Managing risks of hazardous chemicals in the workplace.

WA and Victoria have not enacted the harmonised WHS legislation so WHS laws in those states are different from the rest of Australia. If you are in either of these states you need to refer to the relevant health and safety authority in your state.

3.2 What are the main priorities of WHS legislation?

Two principles shape the Safe Work Australia vision for health and safety. The first: all workers regardless of their occupation or how they are engaged have the right to a healthy and safe

working environment. The second: well-designed, healthy and safe work will allow workers to have more productive working lives.

The vision for achieving this as reflected in the new WHS legislation is based on prevention of work-related illness and/or injury through:

- Consultation, communication and coordination of health and safety matters in the workplace with all personnel involved
- Taking a risk management approach to eliminate the risk of injury wherever possible or if this is not possible to minimize the risks to the lowest possible levels.

3.3 Who has responsibilities under WHS legislation and what are those responsibilities?

Achieving the vision of a healthy, safe and productive working life for all, relies on everyone in the workplace meeting their health and safety responsibilities. The WHS Act sets out those responsibilities. These requirements are called **Duty of Care**.

In general, duties are placed on:

- The CEO or most senior manager in the workplace (called person conducting a business or undertaking in WHS legislation). The CEO has overall responsibility for providing a workplace that is safe and without risks to health, as far as practicable
- Senior managers who make, or participate in making, decisions that affect the whole, or a substantial part, of the business are deemed to be 'officers' in WHS legislation. As 'officers' they must exercise 'due diligence' to ensure the CEO complies with their duty of care to provide a healthy and safe workplace
- Other managers including foremen and supervisors who are responsible for ensuring health and safety in their areas. They implement health and safety procedures in their areas including the induction, training and supervision of workers. Workers should go to supervisors about any health and safety matters
- 'Workers.' The WHS Act defines 'workers' very broadly as employees of your company AND others such as a contractors, trainees etc. who are not employees of your company but they may be working there. All 'workers' are required to perform their duties in a manner that ensures their health and safety, and that of others in the workplace
- Others who may influence WHS in the workplace, including contractors, manufacturers, suppliers and installers of plant, equipment or materials used in a workplace.

3.4 What are the WHS responsibilities of CEOs?

Under the new WHS legislation the CEO is given the title person conducting a business or undertaking (PCBU). The reason for this change is that there may be a number of 'CEOs' who have employee relationships with personnel working in your company at any one time. For example there may be contractors, personnel working for a labour hire company, trainees, personnel working for a registered training organisation etc. The CEO of your company is responsible to provide you and everyone else working in the company with a safe workplace and the CEOs of the contractors, labour hire company etc are also responsible for their workers conducting their work safely and following your WHS requirements.

For example, the PCBU of your organisation and the PCBU of an electrical company providing services at your site both have responsibilities to provide a healthy and safe workplace for the personnel conducting the work. The PCBU of the electrical company is responsible to ensure their expert electrical work is conducted safely, in addition to meeting your site's health and safety requirements.

CEOs or persons conducting a business or undertaking bear the ultimate responsibility for health and safety in their organisation. They are responsible to work with their senior management teams to set up the systems to manage health and safety and to hold their senior managers accountable for implementing the systems in their workplace.

The West Australian January 31, 2011, 2:15 am

Apprentice's death sparks union anger

Unions have questioned whether Harvey Beef failed in its duty of care towards a teenage apprentice fitter who was dead up to three days before being found crushed by machinery on Friday. Harvey man Dean Simpson, 18, was found by a co-worker about 2pm on Friday in the roof space of the coolroom of the abattoir. Operations at the State's biggest abattoir remain suspended today after 300 workers were sent home at 3pm on Friday. Mr Simpson's body was removed from the site on Saturday.

AMWU state secretary Steve McCartney said he had written to WorkSafe demanding a full and open investigation. "We're disgusted that in 2011 this can happen," he said. "WorkSafe should be investigating the company's following of their duty of care."

AMIEU branch secretary Graham Smith said it was difficult to speculate until all the circumstances surrounding the death became known. "We're going to be looking very closely into this," he said. "It's an absolutely horrible incident and there are a lot of workers who know the fellow involved and it's very upsetting for the workforce.
"The length of time in discovering the body is of some concern to us and we obviously have some questions about that."

Unions WA OHS officer Linda Morich said the man was an AMIEU member.
"We're hoping that when WorkSafe go in to do this investigation, they don't just look at the circumstances around this poor kid's demise but how it's going to be prevented in the future.
"Who was keeping a check? There are supposed to be tag-in and tag-out systems. "No doubt the investigation will uncover what happened there. Quite simply, the system wasn't failsafe."

Mr Simpson's death has shocked the South West town. A Harvey Beef spokesman would not comment on the circumstances surrounding Mr Simpson's death. "The Harvey Beef community is shattered by this incident and our thoughts and prayers are with his family," he said. "The company is working with the police and other authorities to fully investigate this matter."

3.5 What are the WHS responsibilities of senior managers?

Under the WHS Act senior managers (that is managers who make decisions that affect the whole, or a substantial part of the organisation) are given the title 'officers.' They are responsible to exercise 'due diligence' to ensure that the systems are implemented and are effective in providing a safe environment. They must take action on unsafe practices or incidents. They must be able to report on safety performance and they must ensure that their personnel have the health and safety expertise they need to do their work. The maintenance manager in your organisation is likely to be deemed an 'officer' under the WHS Act as they make decisions that affect the whole or a substantial part of the organisation.

Sources of information on WHS for supervisors

Sources of information on WHS for supervisors include:

- *Workplace health and safety for meat industry supervisors* – a website on WHS for meat industry supervisors that includes links to meat industry and general WHS sites http://www.mintrac-whs.com.au
- *Guidance Note, Safety supervision, creating an environment for effective supervision*, June 2011. WorkSafe Victoria http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/safety-supervision-creating-an-environment-for-effective-supervision
- *Safety Supervision And Creating An Environment For Effective Supervision – Checklist,* July 2011. WorkSafe Victoria. http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/safety-supervision-and-creating-an-environment-for-effective-supervision-checklist
- *Safety Supervision - Supervising Workers With Specialist Knowledge Or Skills,* July 2011. WorkSafe Victoria. http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/safety-supervision-supervising-workers-with-specialist-knowledge-or-skills
- *Supervising Workers With Specialist Knowledge Or Skills – Checklist,* July 2011. WorkSafe Victoria. http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/supervising-workers-with-specialist-knowledge-or-skills-checklist

3.6 What are the WHS responsibilities of supervisors?

Supervisors are responsible for health and safety in their own work areas and play a critical role in preventing workplace injuries and fatalities. The duties of supervisors in maintenance are even more critical to due to the high levels of risk related to maintenance and non-production tasks. Supervisors implement the organisation's health and safety systems in their work area. In practice this means that supervisors must:

- Participate in and implement control measures related to the risk management process in their areas
- Conduct regular workplace inspections and risk assessments by identifying and fixing hazards before they cause problems

- Consult with their workers and others such as contractors and trainees working in their area to involve them in health and safety matters so everyone is working safely and contributing to safety in the area
- Model exemplary behaviour that demonstrates their commitment to health and safety and their commitment to treat everyone in the workplace equally, fairly and with respect
- Encourage reporting and act promptly on any unsafe condition or incident or any health and safety issue. If they can't solve it then they should report it to their manager or as appropriate, eg to the maintenance manager
- Train and supervise their staff so that they work safely and don't endanger the safety of others
- Have a detailed understanding of the safety performance of their own area and be able to report on that performance.

It is most important for supervisors to act on matters reported to them, to do everything in their power to reduce or eliminate hazards. Supervisors should also take pro-active action to reduce or eliminate hazards before they cause problems.

3.7 What are the WHS responsibilities of workers?

Remember that 'worker' also includes contractors, trainees and visitors to your site. Workers responsibilities include:

- Taking reasonable care of their own health and safety
- Taking reasonable care that their own conduct does not adversely affect others
- Complying with instructions
- Cooperating with workplace policies and procedures.

3.8 What are the WHS responsibilities related to contractors?

Under the WHS legislation the PCBU (or CEO) has the responsibility to ensure the health and safety of contractors at your site and the contractors in turn have responsibilities to follow your WHS requirements as well as performing their own work on site in a healthy and safe manner. If you are a maintenance supervisor working in the maintenance department it is critical that you follow your company's procedures in relation to managing contractors at your site. These procedures will include:

- Meeting contractors that you are working with at reception
- Checking that they have had a general site induction to familiarise them with site WHS policies and procedures that they are required to follow when they are on site
- Escorting the contractor to the site of the work and reviewing the work to be done, the risks involved and methods of eliminating or reducing the risks to the lowest possible levels, to whom they report and the impact of the work in the area
- Monitoring and supervising contractors on site to ensure they are following your health and safety requirements and not endangering their own lives or the lives of people around them
- Recording experience with contractors through normal work systems.

3.9 How is WHS legislation enforced?

WHS legislation is regulated by each state and territory government WHS authority. These are:

- WorkCover NSW: www.workcover.nsw.gov.au
- NT WorkSafe: ntworksafe@nt.gov.au
- Workplace Health and Safety Queensland: www.worksafe.qld.gov.au
- SafeWork SA: www.safework.sa.gov.au
- WorkSafe Tas: www.worksafe.tas.gov.au
- WorkSafe Vic: www.worksafe.vic.gov.au
- WorkSafe WA: www.commerce.wa.gov.au/WorkSafe/

The authorities aim for compliance with the legislation. They employ inspectors to provide advice on compliance. The inspectors make every effort to assist companies to comply with the legislation but if the company is not co-operating or if there are breaches of the legislation the WHS Act provides a range of graduated enforcement options. These include:

- **Issuing a non disturbance notice**, eg it is a requirement of the legislation that areas where there has been a notifiable accident (ie an accident where someone is injured and requires hospitalisation) are not disturbed in any way until otherwise directed by an authority inspector
- **Issuing an improvement notice**, eg an inspector may observe workers on the legging stand and issue an improvement notice requiring all workers on the legging stand wear fall restraint personal protective equipment
- **Issuing a prohibition notice**, eg an inspector may see that a piece of equipment has a guard removed. The inspector may issue a prohibition notice that the equipment cannot be used until the guard has been replaced and is operating
- **Issuing an undertaking** for the company to take remedial action
- **Issuing an injunction**. Where the court finds a person guilty of an offence, the court may issue an order (an injunction) requiring the person to take corrective actions
- **Issuing an enforceable undertaking**. This means the inspector may accept a written undertaking from the person to comply. This allows businesses to implement effective work health and safety initiatives and improve WHS as an alternative to prosecution.
- **Issuing a penalty notice**. A penalty notice may be issued for certain serious offences, for example removing asbestos without a licence. Because they do not involve court proceedings, they are a quicker option for dealing with offences under WHS laws. The amount is specified in legislation and is much lower than the maximum penalty that may be issued by the court.
- **Initiating prosecution**. Legal prosecutions may be conducted through the courts against individuals, employers or businesses that have allegedly broken WHS laws. Prosecutions through the courts are a last resort, and generally only carried out in the most serious cases.

In the event of a prosecution the reverse onus of proof that was a feature of the previous WHS legislation has been removed. Under the old legislation if you were prosecuted you had to prove you had made every effort to comply with the legislation. Under the new legislation the

burden of proof rests with the prosecution. The prosecution must prove beyond reasonable doubt that there was a failure to comply with the legislation.

Penalties for breaches of the WHS legislation may incur fines to the company and/or fines and gaol sentences to individuals including directors, managers, supervisors or anyone associated with the business. Prosecutions are under criminal law. Fines to corporations may be as high as $3 million and fines to individuals may be as high as $600,000 to PCBUs or 'officers' and $300,000 to other individuals. Gaol sentences to individuals may be up to a maximum of five years.

Penalties for breach of health and safety duty offences

	Corporation	Individual as PCBU or officer	Individual as worker or other
Category 1	$3 million	$600 000, five years in jail or both	$300 000, five years jail or both
Category 2	$1.5 million	$300 000	$150 000
Category 3	$500 000	$100 000	$50 000

If you make every effort to meet your WHS responsibilities then you shouldn't have any problem with breaking WHS laws. If there is for example an accident in your area a WHS authority inspector may visit your area and conduct an investigation. As a worker, you need to be able to demonstrate that you followed work and WHS instructions and work in a healthy and safe manner and take care for the safety of others. As a supervisor, you need to be able demonstrate that your workers are competent, trained, consulted, supported and supervised and your work area is safe (this includes work instructions, risk assessments and workplace inspections). You need to have evidence of this that may include:

- Relevant work instructions
- Records of training
- Register of risks and copies of risk assessments
- Copies of regular work inspections and actions taken to eliminate hazards
- Minutes of meetings such as toolbox meetings that reflect consultation about WHS
- Diary entries that reflect raising issues with others and actions taken
- Copies of relevant emails that demonstrate actions taken such as referring issues to more senior managers or production managers.

Prosecution in Victoria

Wodonga Rendering Pty Ltd operates a rendering plant and abattoir. On 10 May 2013, an employee was injured when he was cutting a steel plate and struck in the face with an angle grinder. The employee suffered cuts to his face, severing an artery. The accused pleaded guilty to the following sections of the Occupational Health and Safety Act 2004.

'21. Duties of employers to employees

(1) An employer must, so far as is reasonably practicable, provide and maintain for employees of the employer a working environment that is safe and without risks to health.'……

(2) 'Without limiting sub-section (1), an employer contravenes that sub-section if the employer fails to do any of the following—

(a) provide or maintain plant or systems of work that are, so far as is reasonably practicable, safe and without risks to health;'…….

(e) 'provide such information, instruction, training or supervision to employees of the employer as is necessary to enable those persons to perform their work in a way that is safe and without risks to health.'

On 8 May 2014, the accused was convicted and fined $40,000, with costs of $2,200.

Category: Failure to provide information, instruction, training or supervision; Guarding

4.0 Contractor WHS management

4.1 What approach should be taken to managing contractors?

Under state Work Health and Safety (WHS) laws a person conducting a business or undertaking (PCBU) has the responsibility to ensure the safety of everyone on site. This includes contractors and subcontractors. The PCBU is the most senior manager of the company (generally the CEO). The PCBU must take all reasonable steps to:

- Protect the safety of contractors from risks they might be exposed to in the workplace
- Ensure work conducted by contractors does not affect the health and safety of others

Companies should have a system in place that outlines how they will manage contractors in their workplace that includes:

- Developing and implementing the system to manage contractors
- Planning and preparing the contract work to be undertaken
- Onsite management and supervision of contractors
- Contract record-keeping and evaluation.

Prosecution in Victoria

Tabro Meat is a meat exporter operating a facility at Lance Creek. On 4 April 2012 a subcontractor electrician was seriously injured when he walked into a drainage pit containing extremely hot liquid. Maintenance work had been conducted on the area earlier in the day in an attempt to clear a blockage but the pit had been left unattended. The accused pleaded guilty to one charge pursuant to the following sections of the Occupational Health and Safety Act 2004.

'21. Duties of employers to employees

(3) An employer must, so far as is reasonably practicable, provide and maintain for employees of the employer a working environment that is safe and without risks to health.'……

(4) 'Without limiting sub-section (1), an employer contravenes that sub-section if the employer fails to do any of the following—

(b) provide or maintain plant or systems of work that are, so far as is reasonably practicable, safe and without risks to health;'…….

(e) 'provide such information, instruction, training or supervision to employees of the employer as is necessary to enable those persons to perform their work in a way that is safe and without risks to health.'

On 16 June 2014, the company was fined $75,000 with conviction and ordered to pay costs of $3,200. The fine was reduced to $35,000 with conviction on appeal.

4.2 What is the contractor management system?

The tender

Develop overall tender criteria. Tender criteria will vary according to the size of the contract and the nature of the work. A small contract for example, may require a description of the work and WHS management system with quotation from say two contractors. Large tenders for construction work where the cost is greater than $250,000 will be governed by the requirements for safe work method statements for high risk construction work.

Develop tender specifications that set out the work to be completed as part of the contract and clear criteria for tender selection. The specifications required for WHS include details of the contractor's general WHS management system and specific WHS requirements related to the contract work to be undertaken. Requirements for the contractor's general and WHS management systems include:

- Contractor company details including company registration to verify that the contractor is a legitimate business
- Workers compensation and public liability insurance coverage details
- Names, registration, licences and qualifications of contractors doing the work
- Details of any sub-contracting of all or parts of the work to other contractors in regard to their company details, insurance, competencies and WHS systems
- Evidence that the contractor has procedures to manage safety, site safety plan, risk assessments, safe work method statements (SWMS) for work you require them to perform, work instructions, relevant emergency procedures, induction and training processes and records and equipment maintenance records
- Accident reporting and investigation procedures and copies of accident records
- Safe work method statement for high risk construction work
- Contacts for references from previous jobs.

Specific WHS requirements related to the contract including:

- How the contract work will be coordinated in your workplace; how any shared responsibilities will be managed; supervision and monitoring of contracted work
- Breakdown of contract work into tasks and risk management for hazards of each task
- Work instructions for tasks
- Safety requirements for work area eg for cordoning off work area

Develop a tender process that includes tender specifications, timelines and criteria for evaluating tenders.

Conduct tender evaluation to confirm that the contractor has met the tender specifications and is suitable and will work safely in your workplace. The evaluation needs to be made by a person with the skills and experience to make the assessment. Particular note should be taken

in regard to sub-contracting of all or parts of the work to other contractors in regard to their competencies and WHS systems.

4.3 The contract

Depending on the nature of the work to be done, the contract between the employer and the contractor may include the following WHS areas:

- Meat processing company WHS policies and procedures
- WHS roles, responsibilities and reporting requirements for the contract including identifying the meat processing company contractor supervisor to whom the contractor will report
- Information, instruction and training provided to all workers as appropriate
- Requirements for contractor supervision
- Safety requirements for work area
- Methods, purposes and schedule of communication for contract
- Risk management processes for reducing risks to lowest possible levels for work in contract
- Schedule of inspections and audits of work
- Procedure for handling any changes in the work/contract
- Contract reporting and record-keeping requirements including reporting on:
    - Site inductions and training
    - Incidents, hazards etc
    - Formal meetings for consultation and communication during contract work
    - Process to be taken by site management if contractors are non-compliant with company policies and procedures.

Contractor WHS responsibilities

The contract will include contractor WHS responsibilities on site during the contract. These responsibilities will generally include:

- Your responsibility for your own safety and the safety of your co-workers and others that your work activities may impact upon
- All persons working for or contracted by you must complete a site induction have been vaccinated against Q fever (at least 2 weeks before entering the site to build up immunity to Q fever), and have read and understood the safety requirements detailed below. This must be done before starting work
- All contractors must sign in upon arrival and contact their contractor supervisor to escort them to the area of work
- Contractors must also sign out when they leave the site
- Maintain reasonable standards of housekeeping, cleanliness and hygiene

- Safety and PPE (such as hearing, foot, eye protection, hard hats, high visibility vests) must be worn/used as appropriate to the area and work being carried out
- Smoking, alcohol and illegal drugs are prohibited at the site
- Contractors who are on prescription medication should report the medication they are on to the contractor supervisor
- No work is to start until everyone working for you or contracted by you, have been authorised to do so by the supervisor of the area where you are working
- Do not enter any areas that you are not authorised to enter
- Before starting work, the principal contractor will review the work to be done with the site contractor supervisor and the supervisor of the area where the work is being conducted and explain any implications of the work being undertaken for the area, eg need to cordon off the area
- All contractor equipment, materials, and PPE must be in good condition, properly maintained and suitable for the work
- All hazards must be controlled in consultation with the contractor supervisor to reduce risks to the lowest possible levels
- No equipment is to be repaired or maintained unless properly isolated/switched off and de-energised
- Any equipment or materials found to be unsafe should be reported immediately to the contractor supervisor and locked and tagged out of service
- On a construction site, all mains powered electrical equipment must have a current test tag
- A current safety data sheet must be available for any hazardous/dangerous chemicals used
- For any high risk work (such as work at heights over 2m, confined space work, working with hazardous substances) you must have appropriate training and the correct equipment. An appropriate formal risk assessment, safe work method statement or job safety analysis must be completed before starting work
- All injuries, incidents and equipment damage/breakages/failures are to be reported immediately to the site contractor supervisor as appropriate
- The site WHS procedures must be followed for accident/incident and hazard reporting and submitted to the site contractor supervisor
- A serious incident that may be notifiable should be reported to the site contactor supervisor or area supervisor immediately and the scene of the incident preserved
- Be aware of vehicle traffic operating on site. Follow the designated pedestrian walkways
- Demarcate/isolate visitors/clients from the work you are doing with appropriate warning signage and barriers
- No form of harassment/bullying will be tolerated.

- Understand site emergency requirements (basic evacuation procedures, exit locations, evacuation assembly location).
- Comply with any reasonable direction from the PCBU, principal contractor, site manager or site contractor supervisor. You could be asked to leave the site if any of the above requirements are not followed to reasonable expectations. Please ask the person in charge of your work if any doubt exists.

4.4 What is a contractor register?

Compile a contractor register of all contractors used in your business. The register includes company details and other general information from each contractor to verify their legitimacy and that they follow safe work practices. Your organisation may compile a list of preferred contractors for specific areas of work. Your organisation will, in turn provide your company information and evidence of your WHS management system to each contractor to demonstrate that you follow safe work practices.

4.5 What needs to be done to plan and prepare the contract work to be undertaken?

Induct contractor to site policies and procedures, hazards and risk controls

Every contractor or sub-contractor who will be on your premises must participate in site induction prior to commencing work at your site. Site induction will include:

- Contractor WHS responsibilities, workplace/site procedures and practices (including personal protective equipment) and code of conduct
- Zoonotic diseases including Q fever vaccination (well in advance of commencing work to ensure the vaccination has had sufficient time to take effect)
- Emergency response and evacuation procedures
- Site entry and egress, access to restricted/hazardous areas and amenities for worker welfare
- Incident, accident, near miss and hazard reporting
- First aid procedures
- Consultation mechanisms and how you will monitor contractors to make sure they are working safely
- Risk management processes – Hazard analysis, risk assessment and controlling the risk
- Food safety requirements
- Anti-harassment and drug, alcohol and smoking policies. No form of harassment or bullying will be tolerated.
- WHS policies and procedures relevant to the work being conducted such as hazardous substances, working at height, high risk work, working with hazardous energies and LOTO, hot work.

Consult with the contractor about contract specific WHS requirements prior to commencement of the work

This should include consultation about:

- Notification of site contact person for coordination of work, permits and reporting requirements
- Identification of any shared responsibilities for each contract on site and how they will be managed
- Review of work to be done and identification of implications of that work for the area in which it is being done
- Review of hazards associated with work to be done and implementation of controls to reduce the risks to the lowest possible levels
- Provision of information on workplace hazards, supervision and monitoring of work to be carried out by the contractor
- Review contractors safe work procedures/SWMSs and steps to control risks associated with the job
- Connection to services, vehicle access on site, work organisation and practice
- Contractors plant, powered tools and equipment and any hazardous substances that the contractor(s) will use on the job

4.6 How are contractors monitored and supervised on site?

Contractors need to be monitored and supervised to ensure the contractors work safely and follow workplace procedures and WHS requirements.

- Check all workers are inducted and follow access and egress requirements for the workplace
- Ensure contractor has access to appropriate resources and processes to work safely
- Check tools and equipment are in good condition and fit for purpose
- Check the contractor is working in a safe manner, workplace hazards are accounted for and managed and contractor is taking appropriate actions to eliminate or reduce risks arising from their work
- Check permits are completed and specific workplace procedures and rules followed
- Supervise high risk work closely
- Check all workers are wearing appropriate PPE
- Check work organisation, area signed/barricaded, work area clean and orderly, hazardous substances handled and stored safely, spills and rubbish disposed of correctly, food safety and safety of others not put at risk
- Review new hazards, near misses and incidents with contractor and address WHS issues promptly
- Stop any unsafe work, discuss issues with the contractor and correct any issue or improve safe work procedure.

4.7 What should be done after the contractors have completed their work?

Your company may have specific requirements for keeping records of contractors. You should also be following your company's WHS requirements in the same way as you do for your own

employees. For example, contractors should follow your WHS procedures to report incidents and the incidents need to be investigated in the same way as other incidents on site.

4.8 What are the WHS laws related to contractors?

Primary duty of care

The most senior manager in the company (generally the CEO) is called a 'person conducting a business or undertaking' (PCBU) in the WHS legislation. Under the legislation the PCBU has a primary duty of care to ensure, so far as is reasonably practicable, the health and safety of:

- Workers engaged, or caused to be engaged by the person and
- Workers whose activities in carrying out work are influenced or directed by the person while the workers are at work in the business or undertaking.

A person conducting a business or undertaking must also ensure, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out as part of the conduct of the business or undertaking.

Contractors are workers under the WHS Act

A person is a 'worker' if they carry out work in any capacity for the organisation. Workers include employees, contractors, subcontractors, employees of contractors or subcontractors, labour hire employees, apprentices, trainees, outworkers, persons gaining work experience and volunteers.

WHS duties of workers

While at work, a worker must:

- Take reasonable care for his or her own health and safety, and
- Take reasonable care that his or her acts or omissions do not adversely affect the health and safety of other persons, and
- Comply, so far as the worker is reasonably able, with any reasonable instruction that is given by the person conducting the business or undertaking to allow the person to comply with this Act, and
- Co-operate with any reasonable policy or procedure of the person conducting the business or undertaking relating to health or safety at the workplace that has been notified to workers.

4.9 What is concurrent liability?

Contractors are responsible for their workers health and safety however a business or undertaking that engages the services of a contractor can also be liable under WHS laws if the contractor or any worker employed or hired by the contractor is injured at their workplace and you failed to take reasonable actions to protect their safety. This is known as **concurrent liability.**

Implementing and maintaining effective contractor management helps to mitigate the risk of any concurrent liability (when two or more parties can be liable for the same incident).

4.10 What WHS laws apply to construction work, high risk construction work and construction projects over $250,000?

The PCBU and principal contractor must not allow a worker to carry out construction work (work relating to the construction, alteration, conversion, fit-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure), without proof of successfully completing Construction General Induction Training.

If the training was completed more than two years previously, the worker must have carried out construction work within the last two years.

A SWMS is required for high risk construction work (work carried out: on a telecommunications tower; in or near a confined space; on or near energised electrical installations or services; in an area that may have a contaminated or flammable atmosphere; in or near a shaft or trench with an excavated depth greater than 1.5m or a tunnel; on or near pressurised gas mains/piping; on or near chemical, fuel or refrigerant lines; where there is any movement of powered mobile plant; in an area where there are artificial extremes of temperature; in or near water or other liquid that involves a risk of drowning; or involving: structural alterations/repairs that require temporary support; a risk of a person falling more than 2m; the disturbance of asbestos; demolition of a load bearing element of a structure; the use of explosives; tilt-up or precast concrete; diving work).

The PCBU must ensure work is carried out according to the SWMS, and work is stopped immediately if it is not. A copy of the SWMS must be provided to the principal contractor before work commences.

The Principal Contractor on a construction project (where the cost of the work is $250,000 or more) is required to:

- Display signage showing their name and contact details
- Prepare a written WHS management plan
- Inform all persons carrying out work on the project of content of the WHS management plan
- Obtain copies of SWMS for any high risk construction work
- Manage risks related to:
    - storage, movement and disposal of materials and waste
    - storage of plant not in use
    - traffic in the vicinity of the workplace; and
    - essential services.

4.11 What workers compensation insurance apply for contractors?

Contractors are in most instances responsible for their own workers compensation insurance. If they are a sole trader they should obtain personal accident insurance.

If the contractor is defined a deemed worker under Workers Compensation legislation your business or undertaking will be required to take out workers compensation insurance. The definition of a deemed worker varies depending on the legislation in your state or territory.

Most jurisdictions recognise a deemed worker to be a contractor engaged to carry out regular work on a regular and systematic basis and you have a significant amount of control over the worker and the work they do.

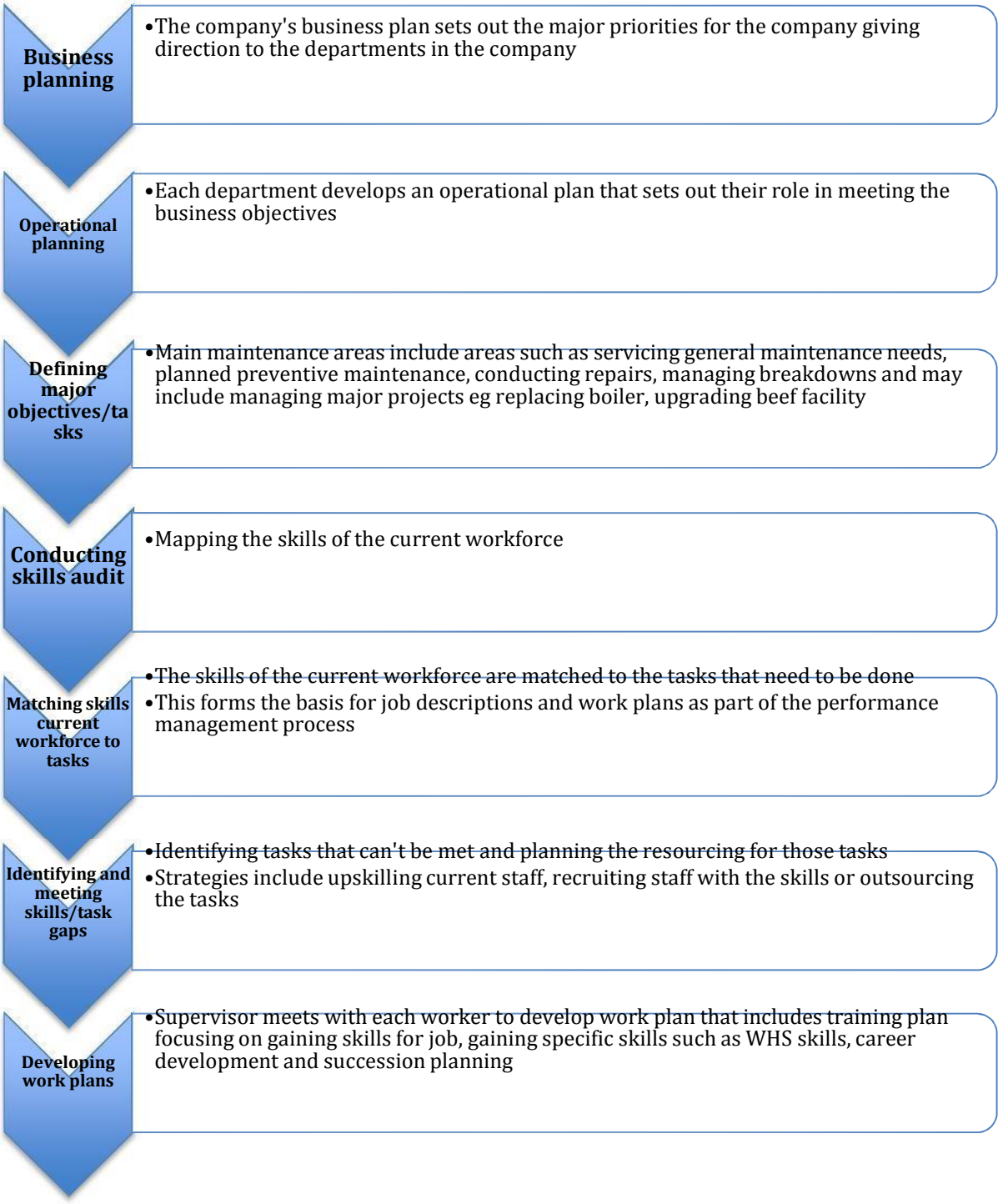
5.0 The management of WHS

5.1 How is health and safety managed in organisations?

Health and safety should be integrated into the business and managed in a similar way to any other aspect of business - through general management systems and specific health and safety management systems. The goal is to integrate the management of health and safety into the ways people do their work so that it is a part of everything we do on a day to day basis.

Your role in the management of health and safety depends on your level in your organisation. If you are the head of the maintenance department then you will have a major role in strategic, operational and workforce planning and ensuring management systems are in place and implemented in your department. If you are a supervisor then you are responsible for your area and you must also implement the general and specific WHS management systems in your area. If you are a maintenance worker then your responsibility is to follow instructions and take care of your own safety and the safety of others.

The general management approach to business begins with planning. It is critical for maintenance departments in particular to participate in the company planning processes to ensure the department is adequately resourced and its people trained to do the work that maintenance staff need to do in the plant. The steps in the planning process generally include the following:



Senior management develops a business plan that defines their strategic priorities for what the business wants to achieve, and a brief outline of how they plan to achieve the priorities. Health and safety may be a strategic priority in the business plan. There may for example be a general WHS priority in the strategic plan that states:

'We are committed to providing a healthy, safe and supportive environment for our staff that enables them to achieve their potential, make their contributions to our business and develop their careers within our organisation.'

Relevant senior managers (including the head of the maintenance department) then develop and implement operational plans that set out how they plan to deliver on their components of the strategic plan, eg what the department needs to do to conduct preventive maintenance, replace a boiler, upgrade the beef facility etc. They also incorporate health and safety into the management systems to achieve the strategic priority. They may for example need to develop a specific WHS management plan for the upgrade of the beef facility. They also need to incorporate health and safety into:

- The performance management system by including WHS in work plans and having WHS performance indicators
- Relevant standard operating procedures and work instructions
- Purchasing procedures through consideration of safety aspects and conducting risk assessments prior to purchasing and obtaining safety data sheets and manufacturer's operating manuals with purchases
- Management of change.

Meeting the strategic priority for health and safety and managing WHS not only requires general management systems that incorporate WHS, but also requires specific WHS management systems for the whole organisation, as well as for specific areas of the organisation including maintenance areas.

The two principles that shape WHS legislation (and as a consequence the WHS management systems in organisations) were identified by Safe Work Australia as:

1. All workers regardless of their occupation or how they are engaged have the right to a healthy and safe working environment
2. Well-designed, healthy and safe work will allow workers to have more productive working lives.

The vision for achieving this as reflected in the WHS legislation is based on prevention of work-related illness and/or injury through:

- Consultation, communication and coordination of health and safety matters in the workplace with all personnel involved
- Taking a risk management approach to eliminate the risk of injury wherever possible or if this is not possible to minimize the risks to the lowest possible levels
- Having safe systems of work in place and operating effectively so that they are incorporated in all aspects of the business and followed by everyone in the workplace.

These priorities are reflected in organisations in General and specific WHS policies and procedures. The WHS policies give a brief overview of what the organisation seeks to achieve in the area and how they plan to achieve it. Procedures set out a step by step process for meeting the goals set out in the policy.

In this way companies will have a general company WHS policy that sets out the company priorities for achieving the strategic WHS priorities and in so doing, meeting their legal responsibilities to provide a healthy and safe working environment. The general WHS policy also includes the main groups of personnel in the organisation with responsibilities to achieve those priorities.

Companies will also have specific WHS policies and procedures that set out how they will manage high priority areas such as risk management, noise, bullying and harassment, confined spaces, chemical safety etc.

Sources of information on WHS laws and the management of WHS

- *Guide to the Model Work Health and Safety Act,* Safe Work Australia http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/717/Guide-to-the-WHS-Act.pdf
- *Guide to the Model Work Health and Safety Regulations,* Safe Work Australia http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/621/Guide_Model_WHS_Regulations.pdf
- *Occupational Health and Safety (OH&S) Management Systems.* SAI Global Occupational Health & Safety Management System audit and certification, you have the choice of several well recognised standards:
  - Australian & New Zealand Standard AS/NZS 4801
  - OHSAS 18001 standard
  - SafetyMAP
  - injuryMAP
  - National OHS Self Insurer Audits (NAT)

5.2 What is required for safe systems of work?

Under the WHS legislation CEOs or PCBUs as they are known in the legislation have a responsibility (among other responsibilities) for *'the provision and maintenance of safe systems of work.'* Safe systems of work focus on senior management taking a proactive approach to identifying all work that is conducted in the organization and all situations that may impact on the work, analyzing how that work can be conducted consistently, optimally and safely and developing and implementing prescribed methods for safe operation and management of situations. The prescribed methods are expressed in the forms of:

- Standard Operating Procedures (SOPs) which are prescribed methods to be followed routinely for the performance of designated **operations** or in designated situations
- Work instructions which set out the sequence and steps in actually performing the task.

Both SOPs and work instructions will include safety requirements and may include requirements for other areas such as quality and hygiene and sanitation.

It is critical for maintenance areas to develop and implement SOPs and work instructions for all areas of their work and for all tasks undertaken in their area. SOPs and work instructions are generally developed by senior managers in the area together with other key personnel such as operators, health and safety managers and QA managers. They are generally stored on maintenance management information systems that may be accessed by all who need them. Operators are then trained in their use and supervised to follow the procedures and instructions. The SOPs and work instructions (together with evidence of training) provide some

evidence that demonstrates that management has done everything that is reasonably practicable to provide a safe system of work to protect the health and safety of their workers.

Safe systems of work will also be developed to cover specific work health and safety areas. These generally take the form of work health and safety policies and procedures.

5.3 How is change managed?

There are legal requirements under WHS legislation for management to consult with workers about health and safety but also to consult with workers about any changes in the workplace. The changes may be on a site level such as a new production line or a new boning room or they may be at an area level with the introduction of an automated process such as a robotic to replace a job on the line or they may be corrective actions such as wearing harnesses on the legging stand, arising from risk assessments, inspections or compliance with law. Workers need to be consulted on all these changes so that they are committed to the change and following the new practices.

Change is a constant feature of our lives including our working lives. Work in meat processing plants is changing rapidly. This is particularly so in maintenance where there are rapid changes associated with technological developments in particular. Maintenance staff are at the forefront of implementing change in meat processing plants as they manage many of the projects that introduce the changes in the plant, eg the re-design of the kill floor, the installation of robots, ICT projects, the introduction of new technologies, the replacement of outdated equipment such as refrigeration, boilers, rendering plant etc.

People feel insecure when there are changes. They may not feel that the change is needed. They may feel insecure about whether they will be able to work in the new ways or they may fear that they will lose their jobs. These are the reasons why it is important to include people throughout the change process so they understand why change is needed, they participate in coming up with the new ways that things will be done and they are committed to implementing the changes.

5.4 What is the role of supervisors in managing change?

Consultation about changes in the workplace generally involves supervisors as they are at the interface between management and workers. This is particularly true of maintenance supervisors as they and their teams may also be doing the work associated with implementing the change and facing the personnel who will be impacted by the change.

The responsibilities of supervisors in managing change include:

- Consulting with workers in their area (particularly those who will be affected by the change) throughout the change process so that workers have the opportunity to provide input into the proposed changes, understand and are committed to the change and will implement the changes they are responsible for, eg wear harness on legging stand
- Participating in all safety assessments associated with the change prior to changes being made including:
    - risk assessments of changed tasks
    - risk assessment prior to purchasing new equipment

  - changes to work instructions and SOPs
- Training workers in the new processes so that they are competent in the new ways of doing things
- Supervising and monitoring workers performance to check they are following the new ways
- Monitoring the outcomes of the change to ensure hazards have been reduced and there aren't any new hazards.

6.0 Risk management

6.1 What is risk management or risk control?

The best way to prevent accidents is to take a systematic approach to considering what can go wrong at the workplace and what the consequences could be, then doing whatever can be done to eliminate or minimise health and safety risks arising from the work that is being done. This process is known as risk management or risk control. Under WHS legislation senior management has a responsibility to take a systematic approach to identifying and controlling risks for every task, plant and equipment, emergencies etc at the work site. Risk control means taking action to eliminate health and safety risks, and if that is not possible, minimising the risks to the lowest possible levels.

6.2 What is a hazard?

A hazard is anything at the workplace with the potential to cause harm. The presence of the hazard does not necessarily mean it will cause harm. Examples of hazards include machinery, tools, vehicles, noise, temperature extremes, bacteria, conflict, harassment, discrimination, workload and people affected by drugs and alcohol.

6.3 What is a risk?

Risk is the possibility that harm (death, injury, illness damage to plant, equipment or property) may occur when exposed to a hazard. Risk is a measure of the likelihood of an event occurring and the severity or the consequence of that event.

6.4 What are the steps in the risk control process?

The following information is based on the Safe Work Australia publication, *'How to manage work health and safety risks – Code of Practice'*

There are four steps in the risk control process. These steps are:

1. **Identify hazards** – find out what could cause harm
2. **Assess risks** – understand the nature of the harm that could be caused by the hazard, how serious the harm could be and the likelihood of it happening
3. **Control risks** – implement the most effective control measure that are reasonably practicable in the circumstances
4. **Review control measures** to ensure they are working as planned and the controls haven't created any new hazards.

Step 1 – Identify hazards

Identifying hazards in the workplace involves finding things and situations that could potentially cause harm to people. Hazards generally arise from the following aspects of work and their interaction:

- Physical work environment
- Equipment, materials and substances used
- Work tasks and how they are performed

- Work design and management.

In general, a number of methods are used to identify hazards. These include workplace inspections, consultation with employees by both formal structures and informal discussions, safety audits and observation, risk assessments of plant, equipment, tasks etc., injury and illness records, accident and incident investigations.

Workers doing tasks and/or operating machinery are most familiar with that task and machinery, and may be the first to identify any hazards or risks associated with their work and work area. You don't want to be injured as a result of the hazard. You should report the hazard to your supervisor immediately and the supervisor should take action to eliminate or reduce the hazard. If you are still not satisfied you may report the hazard to your health and safety representative, the health and safety manager or the union.

Step 2 – Assess risks

In some cases such as task risk assessments, the assessment process will involve breaking the task down into each of the steps to carry out the task. This may be done by working through the work instruction for the task. The risk factors need to be identified for each step in the task.

Even if the task doesn't need to be broken down into steps the task needs to be assessed to identify all the risk factors that may be associated with the task. For example, in the case of a task that involves manual handling it is critical that the task is assessed to identify the nature of the hazards associated with the task. For example, the task may involve repetitive movements, sustained or awkward postures and/or repetitive or sustained forces. Each of these risk factors needs to be identified separately.

The next stage in the risk assessment process involves considering what could happen if someone is exposed to the hazard and the likelihood of it happening. This will help determine:

- How severe a risk is
- Whether any existing control measures are effective
- What action you should take to control the risk
- How urgently the action needs to be taken.

Risk assessment is the responsibility of management. Management will generally consult with workers about the hazards that may be associated with the work they are doing. Operators and maintenance personnel should also be involved as they have knowledge and experience to help management assess the risks associated with the job and help identify control measures to reduce the risks.

Hierarchy of control measures

Effectiveness	Types of control	Examples
Most effective	Elimination	Eliminate manual transport of hooks by installing a hook line
	Substitution	Substitute metal hooks with lightweight durable plastic hooks on the chain to reduce noise levels
	Isolation	Enclose noisy machine may be enclosed to reduce the noise levels
	Engineering controls	Treat floors to lift absorbed fatty substances and then resurface using resin and graphite mix to reduce slip hazards
	Administrative controls	Rotate trained workers through a range of different jobs
Least effective	Personal Protective Equipment (PPE)	Wear PPE such as moisture resistant aprons, abdominal protective aprons, hand protection, hearing protection, head protection as set out in work instructions

Step 3 – Control risks

The most important step in managing risks involves eliminating them if possible, or if that is not possible, minimising the risks as low as possible.

Workers and their representatives who will be directly affected by this decision are consulted about possible controls. For example maintenance workers such as mechanical fitter or electricians are most likely to have ideas about suitable control measures for plant and equipment.

There are many ways to control risks. Some control measures are more effective than others. It is important to select control measures that eliminate the risks or reduce them to the lowest possible levels. This may involve a single control measure or a combination of different controls that together provide the highest level of protection.

Some problems can be fixed easily and should be done straight away, while others will need more effort and planning to resolve. Of those requiring more effort, you should prioritise areas for action need to be prioritised, focusing first on those hazards with the highest level of risk.

Controls may be classified from the most effective controls to the least effective. This is called the hierarchy of control as detailed in the following table.

The WHS legislation focuses on eliminating hazards. If it is not possible to eliminate hazards then the legislation requires risk to be reduced to the lowest possible levels. This is achieved by implementing the most effective controls from the hierarchy of control. These are substitution, isolation and other engineering controls.

Step 4 – Review control measures

The control measures that are put in place should be reviewed regularly to make sure they work as planned. In some cases controls may not work as planned and/or the controls may result in new risks. For example the introduction of a robot to perform a task may eliminate the risks associated with operating that task but may lead to new risks such as risks associated with cleaning, servicing and maintaining the robot.

Management is responsible to review the effectiveness of control measures and identify and control any new risks that have been introduced as a result of the controls. As a maintenance worker in the area or operator of equipment you may be the person who is following the controls and you may become aware of new risks. You should raise any health and safety issues with your supervisor. Don't wait for an accident to happen. Report hazards and risks to your supervisor.

6.5 What is the role of supervisors in controlling risks?

Supervisors participate in the risk management process for their work area. This includes:

- Conducting regular workplace inspections of their area in consultation with workers to systematically identify and fix hazards
- Participating in task, plant and equipment risk assessment in their area in consultation with workers (and contractors where contractors are involved) to identify and fix hazards before they cause injuries
- Modelling safe work practices themselves at all times
- Consulting with workers (and other stakeholders such as contractors) about health and safety and encouraging them to share their safety ideas, report safety issues and report hazards
- Ensuring their workers are trained and competent in their jobs as well as trained and competent to work safely and understand the risk management process
- Supervising and monitoring workers (including contractors) to ensure they are following work instructions, risk control measures and other WHS procedures and are working safely
- Regularly reviewing the safety performance of their area and identifying any patterns that may need addressing such as an increase in any accidents or injuries.

Sources of information on risk management

How to manage work health and safety risks Code of Practice, Dec 2011 Safe Work Australia
http://www.safeworkaustralia.gov.au/sites/swa/about/publications/Documents/633/How_to_Manage_Work_Health_and_Safety_Risks.pdf

Codes of Practice provide a practical guide on how to comply with the legal duties under the WHS Act and Regulations. Evidence of compliance with a Safe Work Australia Model Code of Practice may be directly admissible as evidence in court proceedings under the WHS Act and Regulations provided the Code has been approved by the Minister responsible for work health and safety legislation in that jurisdiction.

6.6 What is the role of workers in risk management?

As maintenance workers it is critical that you take a risk management approach to everything that you do. When you commence work each day you should look around and identify anything that can go wrong and fix it before you commence work, or report it to your supervisor if it is outside your responsibilities. You should also take a risk management approach before you start each new job and when there are any changes. Risk management is a core skill for all maintenance work.

Under WHS legislation workers are responsible to work safely to protect themselves and others around them. In order to achieve this you are responsible to follow safe work procedures, wear PPE, respond to reasonable requests and follow instructions, don't interfere with or remove anything provided by the employer for WHS, and generally make every effort to work safely.

As part of achieving this you may notice hazards in your work area and the environment around you. You may be able to fix easy hazards that are within your areas of responsibility. If you cannot fix the hazard, then you should report it to your supervisor. For example, a broken pallet and loose strapping on the floor may be a trip hazard. You may be able to remove and dispose of the items and eliminate the hazard.

The supervisor is responsible for safety in your area. If you do not get satisfaction from the supervisor, you have the options of reporting the problem to the WHS representative, the WHS committee, the WHS coordinator or the union. You should be made aware of progress and action taken to reduce the hazards you have reported.

7.0 Risk management of high risk maintenance hazards

7.1 Plant, machinery and equipment safety

7.1.1 What is the definition of plant?

The *Code of Practice, Managing Risks of Plant in the Workplace'* (September 2013) defines plant broadly as:

'Plant includes any machinery, equipment, appliance, container, implement and tool, and includes any component or anything fitted or connected to any of those things. Plant includes items as diverse as lifts, cranes, computers, machinery, conveyors, forklifts, vehicles, power tools and amusement devices.

Plant that relies exclusively on manual power for its operation and is designed to be primarily supported by hand, for example a screwdriver, is not covered by the WHS Regulations. The general duty of care under the WHS Act applies to this type of plant.

Certain kinds of plant, such as forklifts, cranes and some pressure equipment, require a licence from the WHS regulator to operate and some high-risk plant must also be registered with the WHS regulator.'

7.1.2 Why is it important to manage the hazards associated with plant?

It is important to manage the hazards associated with plant because plant is a major cause of workplace death and injury in Australian workplaces. There are significant risks associated with using plant, and severe injuries can result from the unsafe use of plant including:

- Limbs amputated by unguarded moving parts of machines
- Being crushed by mobile plant
- Sustaining fractures from falls while accessing, operating or maintaining plant
- Electric shock from plant that is not adequately protected or isolated
- Burns or scalds due to contact with hot surfaces, or exposure to flames or hot fluids.

Possible health effects include hearing loss due to noisy plant and musculoskeletal disorders caused by manually handling or operating plant that is poorly designed.

Sources of information on plant safety

Sources of information on plant safety include:

- *Model Code of Practice - Managing the Risks of Plant in the Workplace*, Sept 2013 Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/managing-the-risks-of-plant-in-the-workplace
- *Your Health And Safety Guide To Plant*, July 2014 WorkSafe Victoria http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/your-health-and-safety-guide-to-plant
- *Safety alert Guards and discs on angle grinders,* March 2016 Workplace Health and safety Qld http://www.vision6.com.au/em/mail/view.php?id=1791304183&a=15149&k=badfe95. Note that Safety Alerts are issued by various state and territory WHS authorities from time to time. You may subscribe to receive these alerts by email when they are issued.

7.1.3 What are the legal requirements related to plant?

The Model Work Health and Safety Regulations (which have been passed into legislation in most states of Australia with the exception of WA and Victoria) state that:

'Regulation 203: A person with management or control of plant at a workplace must manage risks to health and safety associated with the plant.'

'Regulation 34-38: In order to manage risk under the WHS Regulations, a duty holder must:

- *Identify reasonably foreseeable hazards that could give rise to the risk*
- *Eliminate the risk so far as is reasonably practicable*
- *If it is not reasonably practicable to eliminate the risk, minimise the risk so far as is reasonably practicable by implementing control measures in accordance with the hierarchy of control*
- *Maintain the implemented control measure so that it remains effective*
- *Review, and if necessary revise, risk control measures so as to maintain, so far as is reasonably practicable, a work environment that is without risks to health and safety.'*

It should be noted that there is a legal requirement for control measures to be the most effective controls from the hierarchy of controls wherever possible. For example, plant such as robots may be installed that eliminate risks to operators (but may pose risks to maintenance workers). Engineering controls such as conveyor belts replacing manual tasks are also preferred options to administrative controls, which only put barriers between the hazards and the operators. Administrative controls should only be used in association with other more effective controls. Personal protective equipment (PPE), such as hearing protection and hard hats, is the least effective control as PPE is only a barrier between the person and the hazard and the

effectiveness of PPE relies on the person wearing the PPE, proper fit, maintenance, storage and replacement of the PPE.

Workers have a legal responsibility under WHS legislation to follow work instructions. Operators and maintenance personnel may be legally required to undertake training and certification to operate, service and maintain some plant. The certification may need to be updated regularly. How are risks associated with plant controlled?

Management have a legal responsibility to take a planned and systematic approach to identify, assess and control risks associated with plant on site. The risk control process is conducted in consultation with employees and their health and safety representatives. Maintenance management play a key role in the plant risk management process as maintenance personnel may be responsible for maintaining and servicing the plant (whether that is directly or via contractors). The plant risk control process includes:

Hazard identification

Management takes a systematic approach to identify and maintain a register of all plant used on site and systematically identify all the hazards associated with each item of plant. Maintenance management plays a critical role in compiling this register and referring and updating plant risk management whenever there are any changes.

Hazards associated with plant generally arise from:

- **The plant itself,** for example hazards of a forklift, would include hazards relating to its mobility, its power sources (electrical, hydraulic, mechanical), moving parts, load-carrying capacity and operator protection.
- **How and where the plant is used**. The forklift, for example may have hazards arising from the kind of loads it lifts, the size of the area in which it is used and the conditions in the area eg cold conditions, traffic in area, nature of ground surface eg ice, moisture.

Sample plant safety checklists

- *'Hazard Checklist' in 'Model Code of Practice - Managing the Risks of Plant in the Workplace,* Safe Work Australia pages 42 – 45 (included in appendices of this guide)
- '*Plant hazard checklist - Some of the questions you should ask to help identify hazards arising from plant'* may be located at http://www.worksafe.vic.gov.au/__data/assets/pdf_file/0016/12490/plant_hazard_checklist.pdf
- A sample online '*Dangerous machines safety checklist'* may be located at http://www.worksafe.vic.gov.au/safety-and-prevention/health-and-safety-topics/plant/check-plant/check-list#generalHazards

Risk assessment

Risk assessment is undertaken in consultation with the employees who use the plant, equipment or tool, and also with those who clean and/or maintain it. The assessment includes consideration of all the factors that may contribute to the risks including:

- Number of employees using the particular plant and their characteristics

- The competencies, skill and experience of the person(s) using the plant, tools or equipment.
- Frequency and duration of exposure to the risk and the nature of the risks identified
- Complexity and repetitive nature of the task
- The organisation of the work including rotation
- Manufacturer's operating instructions
- Condition of plant and maintenance record of the plant, tool or equipment
- The usual circumstances of plant use, cleaning and maintenance
- Guarding and safety device requirements
- Layout and condition of the workplace, including lighting, workspace, noise levels, pedestrian traffic, etc.

Next, assess the likelihood and consequences for each risk factor to prioritise the highest risk areas and give some direction.

Risk control

Control measures need to be identified for each of the risk factors that have been identified. The most effective controls eliminate the risk of harm. This may be achieved by automating the task, purchasing the safest plant, replacing plant. For example, automatic hock cutters eliminate the risk of injury associated with hock cutting. The automated carton-forming machine eliminates the risk of injury associated with forming cartons, applying glue, etc.

Where the hazard cannot be eliminated then the risk must be minimised by applying the most effective controls from the hierarchy of controls.

Firstly, by applying controls such as:

- Substitution of hazardous plant with safer plant
- Isolation of hazardous plant
- Modification of the design
- Appropriate guarding.

Engineering controls will be implemented in association with administrative controls (such as work instructions, rotation of operators during the shift etc) and personal protective equipment for users of the plant and others who may be affected. PPE is the least effective control measure and should not be the only control measure in place.

Operators of plant and maintenance personnel should be consulted about controls. They also need to be trained in implementation of the controls. Operators and maintenance personnel should also give feedback to management on the effectiveness of the controls.

Reviewing controls

The WHS Regulations state that:

'Regulation 37: Control measures must be maintained so that they continue to protect workers and other people from the hazards associated with plant. The control measures must be:

- *fit for purpose*

- *suitable for the nature and duration of the work, and*
- *installed, set up and used correctly.*

Regulation 38: A person conducting a business or undertaking must review and as necessary revise control measures:

- *when the control measure is not effective in controlling the risk*
- *before a change at the workplace that is likely to give rise to a new or different health and safety risk that the control measure may not effectively control*
- *if a new hazard or risk is identified*
- *if the results of consultation indicate that a review is necessary, and*
- *if a health and safety representative requests a review'*

7.1.4 How is plant operated safely?

Workers have a WHS legal responsibility to work safely and protect others from injury. This includes operating equipment safely. The safe operation of plant includes:

- Participating in training in operation of the plant to gain competency
- Following work instructions and any other workplace procedures related to the operation of plant
- Reporting any issues related to plant to your supervisor
- Participating in consultation on the plant you operate
- Following emergency procedures related to plant as appropriate for situation.

7.1.5 What are some of the safety controls on plant?

The WHS Regulations refer to some of the specific safety controls on plant. These include machine guards and emergency stops.

Machine guards

A guard is a physical or other barrier that can perform several functions including:

- preventing contact with moving parts or controlling access to dangerous areas of plant
- screening harmful emissions such as radiation
- minimising noise through the application of sound-absorbing materials, and
- preventing ejected parts or off-cuts from striking people.

Plant and/or components of plant that require guarding include:

Type A Non-operational plant/components of plant which transmit power and motion:

- belts and pulleys (eg refrigeration rooms)
- gear wheels (eg chain drive mechanisms)
- shafts and spindles (eg viscera tables and conveyor belts)
- flywheels (eg motors, etc.)
- slides and cams
- chain and sprocket gears (e.g. conveyor belts).

Type B Operation parts/components of plant:

- tools and dies of power presses
- blades of guillotines (eg head splitters)
- circular saw (eg horn removal saws)
- band saws (eg carcase splitting saw, boning room band saws)
- drills and chucks (eg maintenance section, core sampling of frozen cartons)
- elevating platforms (eg kill floors).

Permanently fixed physical barriers provide the highest level of protection against hazards. They provide permanent non-moving guards that cannot be removed without the use of tools. These are practical when access is not necessary during the operation, maintenance and cleaning of equipment and prevents access to the moving parts of the machine.

Interlock physical barriers are linked to the operation so that the machine will not operate until the guard is fully closed. They can be electrical, mechanical, pneumatic or hydraulic. This is practical when access is necessary during operation, maintenance and cleaning.

Physical barriers may be either fixed enclosing guards, that prevent access to a particular part of a machine; or fixed distance guards that reduce the possibility of access to any dangerous part or area by their size and ability to keep all parts of the operator at a distance from the hazard.

Presence sensing systems, also known as photoelectric guards, are presence sensing or proximity sensing guards. They have a proximity reaction, ie the machine is deactivated when someone enters or interrupts the barrier. The barriers may include electro-optic action (light barriers, light curtains, light screens) and ultrasonic and protective devices such as pressure mats. These devices may protect the operator from objects ejected from the machine.

Emergency stops

Emergency stop buttons are designed to stop driven machinery or equipment in a situation when a person's health is at risk. Emergency stop devices should not be the only method of controlling risks. They should be designed as a back up to other control measures.

7.1.6 What should you do in a plant/machinery emergency?

You should always follow workplace procedures in the event of an emergency. Workplace procedures will include:

- Operating the emergency stop system, e.g. emergency stop button and, if possible, isolating power to the plant and equipment
- Making sure people in the area are protected
- Alerting others, primarily your supervisor and the first aid officer (if required)
- Following your workplace procedures in relation to any injuries that may have occurred (as a worker this generally means alerting your supervisor and/or first aid officer).

Safety alert – guides and discs on angle grinders

In early February 2016, a Queensland worker received fatal injuries while operating a 230 mm (9 inch) angle grinder. The worker was killed when part of a broken disc struck the worker's chest. It appears that due to the high impact of the projectile it caused fatal internal injuries.

One major contributing factor is the use of cutting discs that are too large for the angle grinder. In some cases the guards have been removed and the grinder fitted with a 14 inch (356 mm) cut-off disc.

Fitting a 14 inch (356 mm) cut-off disc to a 9 inch (230 mm) angle grinder will increase the edge speed excessively to at least 120 m/s (430 kmph). Discs are not designed for the higher speed, and if used, risk the possibility of the disc shattering and striking the user and others.

Guards should be provided and used on all power tools where there is a risk of the disc ejecting, disintegrating or cutting the worker. If the guard has been removed:

- There is nothing to stop the broken pieces hitting the user
- The user's hand will be closer to the unguarded moving blade
- There is also a greater risk of the blade being damaged when the angle grinder is put down and the weight of the grinder is resting directly on the disc.

Another factor that increases the risk of disc failure is when the central disc hole size is too large for the spindle flange on the angle grinder. As the disc diameter increases so will the hole size. If the disc hole is too big for the spindle flange, the disc may be off centre, become unbalanced, vibrate excessively and rapidly lead to it shattering.

Always:

- Use the angle grinder with the correct guard supplied by the manufacturer
- Fit the right sized disc that has a hole matching the spindle flange
- Use the tightening tool supplied by the grinder manufacturer to tighten the disc. The use of another device (i.e. punch and hammer) can damage the disc and grinder.
- Hold the angle grinder with both hands ensuring the side handle is inserted on the side of the unit that gives the best grip for the work activity
- Use a grinding disc for grinding. Grinding with a cutting disc damages the disc and increases the likelihood of the disc breaking during use.
- Ensure the maximum RPM disc speed marked on the disc is higher than the maximum speed of the angle grinder
- Ensure damaged discs are thrown out and not re-used
- Allow the grinder to run to speed before cutting or grinding.

7.2 Isolating plant

EFARMING NEWS 17th February 2012

Workers 'traumatised' over abattoir death

A 31-year-old woman died at the Shark Lake Food Group abattoir in Esperance after an incident involving a large Cryovac machine. Worksafe investigators flew to the town on Thursday morning to meet with police and find out how the incident occurred. A spokeswoman for WorkSafe said meat processing workers present at the time were "too traumatised" to talk to investigators, who will return to the town on Tuesday to continue their enquiries. Preliminary findings suggest the woman may have tried to clear a blockage without first stopping the machine, a practice WorkSafe urges farmers and workers to avoid with all machinery. The investigation is expected to take months as the piece of machinery involved also needs to be tested to see if there was a fault. WorkSafe WA Acting Executive Director Ian Munns said any work-related death was a tragedy, and relayed his sincere condolences to the woman's family.

7.2.1 What should be done before plant is serviced, maintained, cleaned or repaired?

Work on plant may be dangerous and should only be carried out by authorised and trained personnel following work instructions. In order to protect the person cleaning, servicing, conducting maintenance or repairing plant it is important to make sure the machinery cannot be started when work is taking place. To achieve this the machinery is isolated, ie energy is prevented from entering the plant and all stored energy is de-energised. The plant is then locked out and tagged out (LOTO), and power isolated at the source before cleaning or servicing begins.

If the machinery was operating during the cleaning or servicing the operator might fall into the machinery, body parts may be caught in machinery and articles of clothing or cleaning or servicing equipment may be dragged into the machinery. If the machine is not locked out, then another person may inadvertently turn the machinery on while the operator is cleaning or servicing the machinery.

7.2.2 What are the steps in isolating plant?

It is critical to isolate and lock and tag out plant before cleaning or servicing. Only trained and authorised personnel should isolate, lock and tag out plant for cleaning and servicing.

Work instructions set out the steps in isolating plant. You should follow the specific work instructions for isolating each item of plant in your area. Each step should be completed before work begins. The steps in isolating plant which will be included in your organisation's work instructions include:

1. Shut down plant

Ensure the operator of the plant is aware that work is being conducted on the plant. There may be a number of energy sources to be shut down in a particular order.

2. Isolate energy sources

Isolate all energy sources including control stations and independent electricity sources eg de-energising electrical circuits, connecting equipment and circuit protection devices.

3. De-energise stored energy

Energy may still be stored even after energy sources have been isolated. Stored energy includes static, kinetic (eg rotational motion) and potential. Stored energy may be released by earthing to the ground, allowing the plant to complete its motion. Stored energy may be contained by preventing movement through blocking, wedging or propping the part. Ensure blocks, wedges or props are designed for this task and can only be removed by a deliberate release action.

Consider negative pressure used to activate some types of plant. This pressure will need to be equalised to prevent hazardous substances being released into the work area.

4. Lock out isolation points — personal danger locks

Lock out isolation points to prevent them from being reactivated during the work.

5. Lock out isolation points — out of service locks

An out of service lock should be applied to plant that will be worked on across more than one shift or day. If out of service locks are used, a supervisor or a nominated worker should be responsible for placing and removing them onto all required isolation points. These locks should be clearly identifiable as out of service locks and remain on until it is safe to remove them or the work is complete.

6. Tag out

Tagging is a warning identifying whom to contact. Tagging is not a lock or a form of isolation. Two types of tags are used – personal danger tags and out of service tags.

7. Confirm isolation

Confirm all isolation steps have been carried out effectively and all energy is prevented from entering, removed or restrained.

8. Test for zero energy

Test that isolation of energy sources has been successful.

9. Changing shifts

If work is being taken over by the next shift or another crew, a handover should occur.

10. A worker should not remove another worker's locks and tags

The only worker who should remove personal danger locks and tags is the person who put them in place.

11. Reactivate isolated plant

Isolation procedures should include tasks for reactivating plant.

Sources of information on the isolation of plant

Sources of information on the isolation of plant include:

- *Guidance Note, Isolating Plant*, June 2011. WorkSafe Victoria http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/isolating-plant
- *Isolating Plant – Checklist,* WorkSafe Victoria http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/isolating-plant-checklist
- *Guidance note Isolation of plant 2010,* Government of Western Australia Department of Commerce https://www.commerce.wa.gov.au/sites/default/files/atoms/files/guide-isolation_of_plant.pdf

7.2.3 What do you need to do to work safely in workshops?

As maintenance workers you always need to follow your company's safe work procedures. In general in order to work safely in workshops you need to:

- Comply with all company procedures including SOPs and work instructions
- Don't wilfully place at risk the health and safety of any other person
- Only use equipment if you are suitably trained and qualified to do so
- Only use tools and machines for their intended purpose
- Always seek instruction from your supervisor before using an unfamiliar piece of equipment
- Make proper use of all safety devices and personal protective equipment
- Keep equipment and the surrounding area clean and tidy at all times
- Report any damaged equipment and do not use it until it has been repaired by a qualified person
- Use machine guards and don't remove them
- Never distract the attention of another person when operating equipment and never indulge in horseplay
- Always use the appropriate personal protective equipment
- Report ALL hazards, unsafe conditions, unsafe work practices and incidents
- Be familiar with emergency and evacuation procedures and the location of, and if appropriately trained, in the use of, emergency equipment
- Comply with instructions given by emergency response personnel such as fire wardens and first aiders
- Seeking information, advice, training, supervision where necessary before carrying out new or unfamiliar work.

7.3 Electrical safety

7.3.1 What is an electrical risk?

An electrical risk is a risk to a person of death, shock or other injury caused directly or indirectly by electricity. The main hazards associated with these risks are:

- Contact with exposed live parts causing electric shock and burns (for example exposed leads or other electrical equipment coming into contact with metal surfaces such as metal flooring or roofs)
- Faults which could cause fires
- Fire or explosion where electricity could be the source of ignition in a potentially flammable or explosive atmosphere (for example an ammonia leak).

The risk of injury from electricity is strongly linked to where and how it is used. The risks are greatest in harsh conditions, for example:

- Outdoors or in wet surroundings—equipment may become wet and may be at greater risk of damage
- In cramped spaces with earthed metalwork, such as inside a tank or bin—it may be difficult to avoid electrical shock if an electrical fault develops.

Some items of equipment can also involve greater risk than others. Portable electrical equipment is particularly liable to damage including to plugs and sockets, electrical connections and to the cable itself. Extension leads, particularly those connected to equipment which is frequently moved, can suffer from similar problems.

As many injuries and fatalities occur while operating electrical tools and equipment such as hand power tools it is critical that all users of powered tools and equipment receive instruction, information and training in the safe use of the equipment and follow relevant work instructions.

Sources of information on electrical safety

Sources of information on electrical safety include:

- *Electrical risks at the workplace fact sheet*, Safe Work Australia http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/electrical-risks-at-the-workplace
- *Model Code of Practice - Managing Electrical Risks in the Workplace*, Safe Work Australia http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/managing-electrical-risks-in-the-workplace
- *The Electrical Contractor Safety Program Guide, Dec 2013,* Australian Trade Commission (Austrade)
- *AS/NZS 3760: 2013 In service safety inspection and testing of electrical equipment*
- *AS/NZS 3012: 2010 Electrical installations - Construction and demolition sites*

The material on electrical safety in this guide is based heavily on the above Model Code of Practice and Fact Sheet.

7.3.2 What are the legal requirements to manage electrical hazards?

Ultimately it is the responsibility of the CEO (known as the PCBU) to ensure the safety and safe use of electrical equipment, and manage electrical risks at the workplace. When managing electrical risks, the risks must be eliminated so far as is reasonably practicable. If elimination is not reasonably practicable, the risks must be minimised so far as is reasonably practicable.

Senior managers including maintenance managers are responsible to ensure the safety and safe use of electrical equipment, and manage electrical risks at the workplace in their area of responsibility. This means that maintenance managers are responsible for the management of electrical risks in all maintenance areas. They may in fact be responsible for electrical safety across the whole plant because of their position as senior manager of the maintenance department.

Additionally it is generally the responsibility of maintenance management to ensure contractors using electrical equipment at the workplace are doing so safely by following safe work practices themselves and following the worksite's safe work systems and procedures.

7.3.3 How are electrical hazards controlled in the workplace?

Under WHS legislation, senior management (including maintenance management) are required to undertake a risk control program to identify, assess and eliminate electrical hazards wherever possible or if they can't be eliminated to reduce the risks to the lowest possible levels.

The identification of electrical hazards involves taking a systematic approach to the entire workplace and identifying every possible electrical hazard, assessing the hazard and identifying and implementing control measures to eliminate the hazards wherever possible.

Common measures to control electrical risks in the workplace include:

- Ensuring only appropriately licensed or registered electricians carry out electrical work
- Ensuring safe work procedures (including work instructions) are in place for tasks involving electrical work
- Ensuring all operators of energised equipment receive instruction, training and supervision in safe use of the equipment and conducting their tasks
- Providing safe and suitable electrical equipment for example not using leads and tools in damp or wet conditions unless they are specially designed for those conditions
- Using battery powered tools instead of mains operated where possible
- Inspecting leads for damage before use and removing any that are damaged from the workplace
- Providing enough socket outlets and not overloading socket outlets by using adaptors that may cause fires
- Ensuring power circuits are protected by the appropriate rated fuse or circuit breaker to prevent overloading
- If the circuit keeps overloading—not increasing the fuse rating as this creates a fire risk due to overheating
- So far as is reasonably practicable arranging electrical leads so they will not be damaged:
    - not running leads across the floor or ground, through doorways and over sharp edges
    - using lead stands or insulated cable hangers to keep leads off the ground
    - using cable protection ramps or covers to protect cables and cords, where applicable
- Using Residual Current Devices (RCDs) (also known as 'safety switches') to protect workers using portable equipment as required by the WHS Regulations
- Determining the reason why an RCD, circuit breaker or other over current protective device disconnected the electricity before it is switched back on
- Ensuring RCDs are effective by regular testing
- Carrying out preventative maintenance on electrical equipment as appropriate for example an appropriate system of visual inspection and where necessary, testing.

7.3.4 What needs to be done to ensure the safety of electrical equipment?

Senior management, including maintenance managers have a WHS legal responsibility to ensure the safety of electrical equipment. This includes:

- Having procedures in place to ensure electrical equipment is regularly inspected and tested
- Having procedures in place to ensure unsafe equipment is disconnected or isolated from its electricity supply and once disconnected is not reconnected until it is repaired or tested and found to be safe or is replaced or permanently removed from use
- Ensuring RCDs are in place as required
- Having safe work methods in place (including SOPs and work instructions) and used routinely on every occasion.

Procedures need to be in place to ensure unsafe equipment is not used in the workplace. The procedures include:

- Procedures to check the physical condition of electrical equipment (including lead and plug connections) prior to use, as appropriate
- Procedures for inspecting and testing electrical equipment
- Procedures for taking the electrical equipment out of service if there is any doubt as to electrical safety, including during use
- Procedures for reporting faulty equipment
- Procedures for locking out equipment.

Inspecting and testing electrical equipment

Electrical equipment needs to be inspected and tested to identify obvious damage, wear or other conditions that may make the electrical equipment unsafe. A record of testing must be kept until the electrical equipment is next tested or permanently removed, or disposed of, from the workplace. The nature and frequency of inspection and testing depends on factors such as the type of electrical equipment, how it is used and its operating environment.

The WHS Regulations have specific requirements for electrical equipment used in a 'hostile operating environment.' A 'hostile operating environment' is a term used to describe an environment where electrical equipment is exposed to operating conditions that are likely to result in damage to the equipment or a reduction in its expected life span, eg exposing the electrical equipment to moisture, heat, vibration, mechanical damage, corrosive chemicals and dust and/or using the electrical equipment in wet or dusty areas, outdoors, workplaces that use corrosive substances, and manufacturing environments. In these conditions electrical equipment must be regularly inspected and tested more frequently by a competent person (at least once every 6 months).

In addition to regular inspection and testing plug-in electrical equipment should also be tested after a repair or servicing that could affect the electrical safety of the equipment. This is generally undertaken by the person carrying out the repair or servicing before return to use.

Requirements for residual current devices (RCDs) or safety switches

RCDs or safety switches, are electrical safety devices that switch off the supply of electricity when electricity leaking to earth is detected at harmful levels. RCDs offer high levels of personal protection from electric shock. In some states and territories, there is a legal requirement to install RCDs on plug in electrical equipment that is used in conditions that are likely to result in damage to the equipment (or a reduction in its expected life span) eg equipment that is moved around a lot in its use or used in conditions of heat or moisture. RCDs should also be regularly tested and a record kept of testing. The frequency of testing will depend on the legal requirements in each state and territory .

7.3.5 How can work on energised plant be conducted safely?

There are significant risks associated with undertaking maintenance and repair work on energised plant. Plant should always be isolated and locked out where reasonably practicable to do so. Where it is not reasonably practicable to isolate plant there are a number of steps and

safety precautions that need to be put in place to protect workers. Always follow your organisation's workplace procedures and never work with energised plant unless qualified, trained and authorised to do so.

Energy may take a number of forms and there may be more than one source of energy associated with individual plant. For example energy includes:

- Electricity (that may be from a variety of sources such as mains, generator and solar)
- Steam
- A variety of fluids under pressure including air, oil, water
- Stored energy such as batteries, flywheels, springs
- Gravity
- Radiation.

Remember that energy may still be stored after energy sources have been isolated and remember that maintenance and non-production tasks should always be performed on plant where all energy sources have been isolated and stored energy has been released.

Work on energised plant should only be undertaken by personnel licensed, competent, experienced and authorised to do so. Your company will have work instructions for working on energised plant. These instructions must be followed. The work instructions will include the steps to ensure only essential maintenance and non-production tasks are performed on energised plant. The steps include:

- Assessing the need to work on energised plant (including tasks, sub-tasks and the hazard zone)
- Identifying hazards and controls (eg assessing plant, tasks, skills, knowledge and risk controls)
- Making a decision to work on energised plant
- Implementing identified controls
- Implementing safety measures
- Issuing a permit to work.

Sources of information on working on energised plant

Sources of information on working on energised plant include:

- *Guidance Note, Working on energised plant*, June 2011. WorkSafe Victoria http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/working-on-energised-plant
- *Checklist, Permit to work on energised plant.* WorkSafe Victoria http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/permit-to-work-on-energised-plant-checklist

7.4 Working safely at heights

7.4.1 What are the WHS legal requirements to work safely at heights?

The *Work Health and Safety Regulation 2011* - Part 4.4 has specific requirements regarding the management of fall hazards. These requirements must be implemented by workplaces. The Regulation refers to the hierarchy of control and stipulates the options to manage fall hazards (*R*79). The hierarchy begins with the level 1 control *elimination* which is the most effective hazard control strategy. A lower order control (eg level 4 or 5) can only be used when it is not reasonably practicable to use a higher one.

The Regulation does not differentiate between height distances (R78). Requirements apply to all fall hazards from one level to another, regardless of the distance from the ground, including the use of low level platforms and ladders.

Sub-regulation 79(3) explains that adequate protection is taken to be provided if the PCBU provides and maintains a safe system of work. The most effective control is elimination. If this is not possible then controls need to be considered focusing on the most effective controls to reduce the risk of fall to the lowest possible level following the hierarchy of controls as outlined below.

Order of controls	Control measures	Examples
Level 1:	**Eliminate** the hazard by performing the work on the ground or on a solid construction.	Stairs with fixed handrails, flat roofs with a parapet or permanently installed guardrails around the edges
Level 2:	Use a **passive fall prevention device**	Edge protection which prevents falls, temporary work platforms, scaffolds (fixed or mobile), Elevating work platforms (EWPs) eg scissor lifts, cherry pickers, boom lifts and travel towers. Step platforms, installing guard rails
Level 3:	Use a **work positioning system** eg which limits movement and therefore minimises access to areas where a fall can occur.	A travel restraint system. Note that travel restraint systems are not fall-arrest devices. Typical anchorage points for these systems are not designed for the impact loads applied in the event of a fall.
Level 4:	Use a **fall arrest system** eg a harness, which does not eliminate a fall, it only prevents the person falling to the ground	A catch platform, individual fall arrest systems, safety nets

Level 5:	Use a **ladder** and/or implement **administrative controls**. Administrative controls should not be used as the only control. They may supplement other controls.	Work instruction, training, SWMS

There are specific requirements relating to the management of the risk of falls for construction work. Workers and contractors are required to supply a **Safe Work Method Statement** (SWMS) or equivalent for work over 2 metres above the ground (measured from the feet) or 1.5 metres below a surface (R299).

Safety review into scissor lifts 'a no brainer' after second fatal accident at Royal Adelaide Hospital

Updated: 21/2/2016

A second man died at the Royal Adelaide Hospital construction site on Saturday. It is understood the man suffered fatal head injuries after being crushed in an accident involving a scissor lift just after 3:00pm.

In 2014, 54-year-old Jorge Castillo-Riffo died after suffering serious head, neck and back injuries at the worksite when he was crushed between a scissor lift and a concrete slab above.

Opposition health spokesperson Stephen Wade said the investigation into the man's death would determine any safety risks. "The fact there have been two deaths at the project in recent years is of real concern," he said.

"I know the investigators will be looking closely at the causes.

"The fact of the matter is no South Australian should go to work and be at risk of death."

7.4.2 What needs to be done to work safely at heights?

Management needs to take a risk management approach to every situation in the workplace that involves working at any height above (or below) the ground where there is any likelihood that a person may be exposed to greater, additional or different risks. A SWMS must break down the job into the steps required to complete the task to ensure the hazards are identified for each step and controls implemented to reduce the risks associated with each step. To manage the risk of falls, management is required to follow the hierarchy of controls for work at height by avoiding the risk by not working at height wherever possible (eg using extendable equipment etc). If the work needs to be done at height then controls need to be put in place to reduce the risk to the lowest possible levels eg by using a fall prevention device. It is also important that tasks are monitored and reviewed and any changes are documented on the risk assessment/SOP/SWMS and communicated to staff.

Sources of information on working safely at heights

Sources of information on working safely at heights include:

- *Preventing falls in housing construction Code of Practice*, July 2012 Safe Work Australia http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/694/Preventing%20Falls%20in%20Housing%20Construction.pdf
- *Managing the risk of falls at workplaces Code of Practice*, March 2015 Safe Work Australia http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/managing-risk-falls-cop

7.5 Working safely with hazardous chemicals

7.5.1 What is a hazardous chemical?

Hazardous chemicals are substances that may harm people, property and the environment. They may affect a worker's health causing illness, disease or injury. They include many common industrial, commercial, pharmaceutical, agricultural and domestic chemicals. Examples of hazardous chemicals in meat processing plants include cleaning agents, sanitisers, ammonia, caustic soda and acids. They may be solids, liquids or gases.

7.5.2 What health effects may occur with exposure to hazardous chemicals?

Hazardous chemicals may enter the human body in three ways:

- Swallowing
- Breathing
- Skin or eye contact.

Health effects may be immediate, ie acute or short term. Immediate health effects of exposure may include headaches, dizziness, nausea, vomiting or burns.

Health affects may be chronic, ie a result of long term or continuous exposure. Chronic health effects may include asthma, dermatitis, cancer and bronchitis or the body may react to an exposure that may have occurred a long time in the past, for example mesothelioma which may develop 30 years after exposure to asbestos.

7.5.3 What are the WHS legal requirements to manage hazardous chemicals?

There are general requirements under the WHS Act for senior managers to provide a healthy and safe working environment primarily through the implementation of risk management programs to manage risks (such as hazardous chemicals) in the workplace. There are also specific requirements related to the management of hazardous chemicals in the WHS Regulations covering areas such as the use, handling and storage of hazardous chemicals at a workplace including duties for keeping a hazardous chemical register, safety data sheets, labels, placarding, fire protection and equipment. The Safe Work Australia, *'Model Code of Practice -*

Managing risks of Hazardous Chemicals in the Workplace' provides a practical guide to achieving the standards of health, safety and welfare required under the WHS Act and Regulations.

The WHS Regulations include specific duties for the most senior manager (the PCBU) to manage the risks to health and safety associated with using, handling, generating and storing hazardous chemicals at a workplace. The duties include:

- Correct labelling of containers and pipework, using warning placards and outer warning placards and displaying of safety signs
- Maintaining a register and manifest (where relevant) of hazardous chemicals and providing notification to the regulator of manifest quantities if required
- Identifying risk of physical or chemical reaction of hazardous chemicals and ensuring the stability of hazardous chemicals
- Ensuring that exposure standards are not exceeded and provision of health monitoring to workers as required
- Provision of information, training, instruction and supervision to workers
- Provision of spill containment system for hazardous chemicals if necessary
- Obtaining the current Safety Data Sheet (SDS) from the manufacturer or supplier of the chemical
- Controlling ignition sources and accumulation of flammable and combustible substances
- Provision and availability of fire protection, fire fighting equipment and emergency and safety equipment
- Preparing an emergency plan if the quantity of a class of hazardous chemical at a workplace exceeds the manifest quantity for that hazardous chemical
- Stability and support of containers for bulk hazardous chemicals including pipework and attachments

Decommissioning of underground storage and handling systems and notifying the regulator as soon as practicable of abandoned tanks in certain circumstances.

7.5.4 How are hazardous chemicals managed in the workplace?

In order to meet obligations under the WHS Act and Regulations senior management is responsible to put a risk management program in place to minimise the risks of exposure to hazardous chemicals that includes storing, handling and managing them safely to avoid harm to workers, members of the public, property and the environment. The risk management program includes:

- Identifying the hazardous chemicals in the workplace and maintaining a register and manifest of hazardous chemicals
- Assessing the risks
- Implementing controls to eliminate and/or minimise the risks
- Reviewing the control measures and keeping up to date with WHS codes of practice and legislation
- Maintaining records of the risk management process conducted for the hazardous chemicals in the workplace.

Maintenance managers will participate in the conduct of the worksite's risk management process for hazardous chemicals. In particular they will be involved with identifying the measures to put in place to comply with the specific requirements under WHS legislation to comply with eliminating risks associated with chemicals in the workplace.

Managers (including supervisors) of each area of the workplace are then responsible for implementing the risk management program for hazardous chemicals in their area of responsibility. They are also responsible for ensuring the members of their teams are aware and trained in the hazards associated with the chemicals and the control measures to minimise risks and follow the controls routinely in their work.

The appendices of this guide include the *'Hazardous chemicals risk assessment checklist'* from the Safe Work Australia, *'Model Code of Practice - Managing risks of Hazardous Chemicals in the Workplace.'*

7.5.5 How can workers reduce the risks of working with hazardous chemicals?

Employees should take reasonable care for their own health and safety and avoid harming others. For hazardous chemicals this includes:

- Participating in training in the use, handling, storage etc of any chemicals that you are using in the course of your work
- Following work instructions and any safety procedures associated with the use of the chemicals you are using
- Reporting any issues with chemicals to your supervisor
- Using appropriate PPE provided for use with chemicals

Following safety instructions such as the removal of contaminated clothing before eating, drinking or smoking.

7.5.6 How can you find information on specific chemicals used in your workplace?

Under WHS legislation all workplaces must have a register of chemicals used in the workplace that includes safety data sheets (SDS) for each chemical. SDSs include specific information on the chemical such as health hazard information, precautions for use, safe handling information, contact details, what to do in an emergency such as a spill or exposure to the chemical etc. You should locate the area where this information is stored in your workplace and read the SDS for each chemical that you are working with.

Sources of information on hazardous chemicals

Sources of information on managing risks of hazardous chemicals include:

- *Model Code of Practice - Managing Risks of Hazardous Chemicals in the Workplace*, July 2012 Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/managing-risks-of-hazardous-chemicals-in-the-workplace
- *Model Code of Practice - Labelling of Workplace Hazardous Chemicals, September 2015 Safe Work Australia.* http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/labelling-hazardous-chemicals-cop
- *Safety Data Sheets (SDS*), Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/whs-information/hazardous-chemicals/sds/pages/sds
- *Hazardous substances and dangerous goods*, Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/whs-information/hazardous-chemicals/dangerous-goods/pages/hazardous-substances

7.6 Dangerous goods

7.6.1 What are dangerous goods?

Dangerous goods are substances, mixtures or articles that, because of their physical, chemical or acute toxicity properties, present an immediate hazard to people, property or the environment. Incidents involving dangerous goods typically result in explosions or fires and have the potential to cause serious or fatal injuries as well as large-scale damage to property and the surrounding environment. Unsafe use of dangerous goods may also cause poisoning, chemical burns and other serious health problems.

Types of substances classified as dangerous goods include explosives, flammable liquids and gases, corrosives, chemically reactive or acutely (highly) toxic substances. Petrol, LPG, paints, pesticides and acids are examples of commonly used dangerous goods.

Dangerous goods are used broadly in the meat industry. They include but are not limited to:

- Ammonia
- Chlorine (in all its forms)
- Carbon monoxide
- Flammable refrigerants
- Liquefied petroleum gas (LPG)
- Petrol and diesel
- Cleaning chemicals
- Corrosives (such as caustic soda or hydrochloric acid)
- Poisons.

The new WHS Regulations cover workplace hazardous substances and dangerous goods under a single framework for hazardous chemicals. SAI Global, the Australian Standards organization has a publication that gives a '*Guide to Standards – Dangerous Goods*.'

7.6.2 How are the risks from dangerous goods controlled in the workplace?

Senior management has a legal responsibility under WHS legislation for conducting a risk management process to minimise the risks associated with dangerous goods. This includes minimising risks associated with storing, handling and transporting dangerous goods safely to avoid harm to workers, members of the public, property and the environment. The risk management program includes:

- Identifying the dangerous goods in the workplace, obtaining and providing information and maintaining a register of the dangerous goods
- Assessing the risks including the risks associated with storage, handling and transport of dangerous goods
- Implementing controls to eliminate and/or minimise the risks to the lowest possible levels
- Reviewing the control measures and keeping up to date with WHS codes of practice and legislation

Maintaining records of the risk management process conducted for the dangerous goods in the workplace.

7.6.3 What is the role of maintenance managers in managing the risks from dangerous goods?

Maintenance managers (and other managers in the workplace) are responsible for implementing the risk management program for dangerous goods in their area of responsibility. They are also responsible for ensuring their team members are aware and trained in the hazards associated with the dangerous goods, the control measures to minimise risks and follow work instructions routinely in their work. Maintenance managers also need to manage any contractors on site working with dangerous goods to ensure that they are following the company's safe work procedures and working safely.

Maintenance managers will generally have a significant role in the design and implementation of the workplace's risk management program for dangerous goods. This includes:

- Participating in the risk management process for dangerous goods
- Planning associated with incidents with dangerous goods including reporting, emergency procedures, fires, first aid and confined spaces entry
- Frequently taking a lead role in the management of incidents with dangerous goods at the site
- Training and instruction for workers on dangerous goods particularly related to storage, use and handling of dangerous goods and managing incidents
- Supervising contractors and other persons working at the site
- Developing procedures for regular cleaning, maintenance and inspections and training of personnel associated dangerous goods and ensuring they are followed

- Identification and installation of signage, manifests and notifications of dangerous goods on premises to relevant authorities in each state as required by legislation in each state and ensuring they are in place where required
- Planning storage of dangerous goods in design of new premises or plant
- Planning and supervising the implementation of security of dangerous goods on site and in storage areas
- Developing plans for the management of serious incidents and other incidents with dangerous goods including reporting, investigation and management of incidents.

Sources of information on managing risks of dangerous goods

Sources of information on managing risks of dangerous goods include:

- *Model Code of Practice - Managing Risks of Hazardous Chemicals in the Workplace*, July 2012 Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/managing-risks-of-hazardous-chemicals-in-the-workplace
- *Australian Code for the Transport of Dangerous Goods by Road and Rail* (ADG Code) This code contains the criteria used to determine whether substances are classified as dangerous goods.
- *Guide to Standards – Dangerous Goods,* SAI Global
- *Hazardous substances and dangerous goods*, Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/whs-information/hazardous-chemicals/dangerous-goods/pages/hazardous-substances

7.7 Personal Protective Equipment

7.7.1 What are the WHS legal requirements related to personal protective equipment?

According to the National Guidelines for Health and Safety in the Meat Industry:

' PPE and clothing are those items of equipment worn by an employee to minimise or eliminate exposure to specific occupational hazards'

The emphasis is always on eliminating the hazards thereby making it unnecessary for workers to wear Personal Protective Equipment (PPE). However, it is not always possible to eliminate the hazards, and PPE may be required to protect the worker from the consequences of exposure. For example, workers may be required to wear hearing protection to reduce the likelihood of hearing loss resulting from exposure to an excessively noisy environment. Workers in the meat industry are frequently required to wear PPE. In this case it is management's responsibility to ensure PPE is:

- Assigned to the worker for their exclusive use
- Cleaned and maintained after use
- Stored when not in use
- Regularly inspected and maintained
- Checked for continued functioning and effectiveness

- Replaced as required.

It is also the management's responsibility to ensure training is provided as appropriate. Workers should receive training about:

- The deficiencies and restrictions of PPE
- Fitting PPE and how to test for fit
- Use of PPE
- Maintenance of PPE
- Storage of PPE
- Identification of faults in PPE
- Procedure for replacing PPE.

Workers are responsible to:

- Wear PPE as instructed by the supervisor and as set out in the work instruction
- Fit PPE to ensure it is used to maximum benefit
- Check for any faults and replace it if faulty
- Follow maintenance procedures as instructed by the supervisor and set out in work instructions
- Store PPE as instructed.

8.0 Managing environmental risks of maintenance work

8.1 Introduction to environmental risks of maintenance work

Maintenance personnel are often required to work in areas that pose environmental risks to their safety. Environmental risks include risks to health and/or safety associated with working in the following environments:

- Working in confined spaces
- Working in hot or cold areas
- Noisy areas
- Working alone or in remote or isolated areas
- Working in poor lighting

8.2 Working safely in confined spaces

8.2.1 What is the definition of a confined space?

Confined spaces are spaces that often have poor ventilation which allows hazardous atmospheres to quickly develop, especially if the space is small. They generally have limited or restricted means of entry and exit, and may contain harmful atmospheres or stored substances that pose a risk to employees working in them. Maintenance workers have been killed working in confined spaces. A confined space is not intended as a place of work.

Examples of confined spaces in the meat processing industry include:

- Storage tanks
- Rendering vats
- Boilers
- Pressure vessels
- Blood pits and degreasers
- Pipes, shafts and ducts
- Covered augers.

Fatality in confined space

An Altona North company was charged, convicted and fined $500,000 after Geoffrey Johnson, 42, of Werribee was overcome by chemical fumes and died in a large empty tank. The company, which cleans and repairs storage tanks for the chemical industry, pleaded guilty to failing to provide and maintain a safe workplace and another of failing to properly train and instruct its employees.

Mr Johnson was found dead inside the 25,000 litre tank nearly 3 metres high at the company's premises. Mr Johnson had used a chemical to remove latex from inside the tank. WorkSafe estimated the concentration of the chemical in the tank would have been around 100,000 parts per million. It is considered to be "acutely lethal" at a concentration of 20,000 ppm.

WorkSafe's investigation found:

- The company could not produce a Material Safety Data Sheet for the chemical used on the day Mr Johnson died. It would have indicated that the product contained methylene chloride and the health hazards associated with it. These included dizziness, impaired co-ordination and headaches.
- The Depot did not provide its employees with written safety procedures for the use of paint stripper which was also used to clean the insides of tanks.
- The company's training and application of appropriate safety standards were inadequate and the company failed to provide or maintain supervision of workers.
- Confined space entry permits were not used.
- Inappropriate breathing equipment was used by workers inside tanks being cleaned.
- No rehearsal of emergency procedures had been conducted. A co-worker entered the tank to rescue Mr Johnson without PPE & had to get out after 15-30 seconds due to dizziness.
- The Depot had a written procedure for confined space entry, had trained its employees in confined space entry (including annual refresher training) and had provided protective equipment, but they were not in Vietnamese which would have been appropriate to workers involved in the tank cleaning work.

8.2.2 What are the potential hazards working in confined spaces?

Working in confined spaces can be extremely dangerous. Some of the potential hazards include:

- Flooding with water or other waste products eg blood pits
- Fire or explosion from the ignition of flammable contaminants eg natural gases and methane
- Suffocation caused by a lack of oxygen or oxygen replaced by other gases such as carbon monoxide
- Enhanced combustibility and spontaneous combustion
- Suffocation or crushing after being engulfed by loose materials stored in the space, such as sand, grain, fertiliser, coal or woodchips
- Toxic gases such as hydrogen sulphide, carbon monoxide, ammonia, chlorine

- Biological hazards including bacteria, viruses, zoonoses
- Slips, trips and falls
- Manual handling injuries
- Loss of consciousness, injury or death due to contaminants in the air.

Atmospheric hazards are usually defined within the three categories of oxygen deficiency, toxic gas or combustible gas. The only way these atmospheric hazards can be accurately detected and evaluated is with a gas detection device. It is important to recognise that the human senses of sight, smell or taste cannot detect the presence of some hazardous gases eg, hydrogen sulphide in blood tanks is undetectable at 150 parts per million (ppm).

It's not uncommon for incidents involving confined spaces to result in multiple fatalities. Other workers, unaware of the risks, may enter a space to rescue a victim but may then be overcome themselves by toxic vapours or gases.

8.2.3 What are the legal requirements in regard to confined spaces?

Management has WHS legal responsibilities to manage the risks associated with confined spaces and make sure that all hazards have been eliminated or minimised, as far as is reasonably practicable.

Management must also ensure that before a worker enters a confined space:

- Work instructions have been developed for each confined space on site and personnel who may enter the area trained and competent
- A competent person has conducted a written risk assessment
- A confined space entry permit has been issued
- Appropriate information and training has been given to workers and they have been assessed as competent
- Only competent, authorized personnel enter confined spaces and then only for planned, authorized purposes
- Appropriate signage is in place
- Communication and safety monitoring systems are in place
- Specific controls on connected plant, atmosphere, flammable gases and fire and explosions are complied with.

Emergency and rescue procedures must also be in place and the organization must comply with record keeping requirements.

8.2.4 How are hazards reduced or eliminated in regard to confined spaces?

Management (including maintenance management) are responsible to identify and compile a register of all confined spaces in the meat processing plant. Then a risk assessment needs to be conducted in regard to each confined space that:

- Identifies reasons for entering the space
- Identifies all the possible hazards associated with the confined space, entry to the space and work that needs to be conducted in the space
- Assesses the risks associated with each hazard

- Identifies and implements control measures that reduce the risks to the lowest possible levels
- Reviews the control measures to check that they work and haven't created additional hazards.

8.2.5 What happens before entering a confined space?

A confined space should only be entered if it is part of the job and then only following standard operating procedures. Confined spaces may only be entered by competent and authorised persons for a limited and specified range of purposes.

Prior to entering a confined space persons intending to enter must follow the company's workplace procedures. These will include:

- Having received training in confined space entry and the use of any respiratory equipment and PPE to be used
- Having the permission of the authorised person for entry. An authorised person is someone who is authorised in writing by the employer to undertake specific tasks such as the safe execution of work in confined spaces
- Having a confined space entry permit for that confined space
- Having reviewed the standard operating procedures, work instructions and risk assessment for that confined space
- Conducting air testing (if that is required in the SOP) to ensure the air is suitable for breathing and will not harm the person entering and working in the area
- Conducting a risk assessment on the work to be done prior to entry and ensuring all hazards are identified and controls in place to reduce the risks to the lowest possible levels
- Appointing a stand-by person to maintain communication with the person or people in the confined space
- Having communication and safety monitoring systems in place in accordance with SOPs and work instructions
- Being up to date on emergency and rescue procedures.

Sources of information on confined spaces

Sources of information on working in confined spaces include:

- *Model Code of Practice –Confined Spaces*, April 2014 Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/confined-spaces-cop
- *Confined Spaces,* WorkSafe Victoria. http://www.worksafe.vic.gov.au/safety-and-prevention/health-and-safety-topics/confined-spaces
- Relevant Australian Standards include:
  - AS/NZS 2865: 2009 *Confined spaces*
  - AS/NZS 1715: 2009 *Selection, use and maintenance of respiratory protective equipment*

8.3 Working safely in cold temperatures

8.3.1 What effects may occur from exposure to extremes of temperature?

Maintenance personnel may need to work in cold temperatures in boning rooms, despatch areas, chillers, freezers and sometimes outdoors. The body reacts to exposure to cold by trying to maintain its temperature by constricting blood flow to the skin. The skin changes, shivering and postural changes may lead to a loss of coordination and feeling. This in turn may increase the risk of soft tissue damage and accidents. Similarly, cold may aggravate the effects of other workplace hazards, eg slips, trips and falls in icy conditions.

Exposure to cold may result in hypothermia, where the body's core temperature may drop to a dangerous level. Frostbite is another risk in cold areas.

8.3.2 How are risks of working in cold temperatures minimised?

Management conducts a risk management process to identify potential exposure to extremes of temperature and put controls in place to reduce the risks of exposure. Risks in cold environments are related to:

- Temperature
- Air movement
- Length of exposure
- Nature of work.

Entry to cold areas is restricted to essential activities and in some cases only by authorised persons. SOPs must always be followed in relation to cold areas. Procedures for entry generally include wearing protective clothing, familiarity with emergency procedures, following administrative arrangements, eg gaining permission to enter the area, and following procedures, eg not working alone in a freezing chamber.

8.3.3 What is the role of maintenance managers for safe work in cold temperatures?

Maintenance managers will generally participate in the risk management process associated with working safely in extremes of temperature. This includes being involved with the identification of areas of risk, the assessment of the risks and the identification and often the installation of control measures to reduce the risks. Controls may include:

- Ensuring freezers are large enough to permit entry of personnel and the freezers have:
    - Outward opening escape doors that can be opened from the inside
    - Internal lighting
    - Safe means of opening the door (operated pneumatically or electronically)
    - An audible and visible alarm
    - Visible signals and path to emergency exit
- Buffer zones into cold areas to reduce build-up of condensation leading to wet and slippery floors
- Ensuring fans are installed to reduce wind chill and a diffuser used to spread air evenly over entire area
- Rubber flooring on concrete floors to reduce cold being conducted to workers through the floor (plus workers wearing thick rubber soled boots)

- Aluminium work stands rather than steel to reduce cold being conduced to workers through stands
- Ensuring regular cleaning, maintenance and servicing
- Electric forklifts used to avoid carbon monoxide build up in small areas

Training and supervision of workers in cold environments.

8.3.4 What is the role of maintenance workers in cold temperatures?

Maintenance personnel must follow control measures and work instructions to eliminate or reduce risks. In the case of working in extremes of temperature this will generally include:

- Participating in training in working safely in cold areas
- Following your workplaces procedures including work instructions and WHS procedures
- Wearing protective clothing as required
- Following procedures and signage related to entry of freezers and other cold areas
- Ensuring you do not enter any areas that you are not authorised to enter
- Maintaining high standards of housekeeping in cold areas by ensuring the area is clean, material is stored in an orderly way, there is no build up of ice on floors and removing waste such as broken pallets.

8.4 Working safely in hot conditions

8.4.1 What health effects may result from working in hot conditions?

Heat stress occurs when heat is absorbed from the environment faster than the body can get rid of it. When this happens your body is unable to cool itself sufficiently and body temperature rises. Heat stress may cause symptoms such as heat rash, heat cramps, heat exhaustion, heat stroke.

Warning signs of heat stress may include:

- Heavy sweating
- Headache
- Tiredness and weakness
- Dizziness or fainting
- Slurred speech or blurred vision
- Nausea and vomiting
- Painful muscles spasms or cramps.

Factors that may contribute to heat stress include:

- The type of work you do
- High air temperature/humidity levels
- Radiant heat (eg working outdoors)
- Physical condition you're in.

Individual factors that may increase your risk of heat stress include:

- Medical conditions (like heart problems, diabetes or hypertension)

- Medication that may affect your body's temperature regulation, eg anti-depressants, amphetamines, cocaine, weight loss drugs, cough suppressants, restavit.

Your age, weight and level of physical fitness.

8.4.2 What can workers do to reduce the risks of heat stress?

To help reduce your risk of heat-related health problems at work you should:

- Drink plenty of water (ie stay hydrated – a poor diet and consuming alcohol or caffeine can cause dehydration)
- Wear appropriate clothing
- Have regular cooling off or rest periods

To stay hydrated you should:

- Start work in a well-hydrated state
- Drink water to keep pace with sweat losses (drink regularly and between 600 ml and one litre of water per hour in summer)
- Avoid soft/caffeinated drinks
- Increase your intake of fluids if your urine is dark (the normal colour should be pale yellow).

8.5 Managing noise and reducing hearing loss at work

8.5.1 What is the extent of the noise problem in meat processing plants?

The meat processing industry is a 'noisy' industry. As a guide, if you have to raise your voice to communicate with someone about one metre away, the noise is likely to be hazardous to hearing. Sources of noise in the meat industry include:

- Live animals
- Knocking devices
- Movement of metal hooks
- Power tools
- Compressed air
- Metal screws for conveying product.

8.5.2 How does hearing loss come about?

Hazardous noise may destroy the ability to hear clearly and may make it more difficult to hear sounds such as instructions or warning signals that are necessary to working safely.

The potential for noise-induced hearing loss occurs in two main ways:

- Prolonged exposure, that is, eight hours exposure to noise levels of 80 dB (A) and above
- Exposure to a one-off noise, which may cause immediate hearing damage; the upper limit to which a person may be exposed is 140 dB.

Noise-induced hearing loss is an insidious problem, usually developing slowly over many years. Although employees may think that they have become used to noise, this tolerance is due to

temporary hearing loss. Repeated exposure to excessive noise over a period of time will eventually lead to permanent hearing loss. This hearing loss results when tiny hair-like cells in the inner ear are permanently damaged by too much noise for too long. The damaged cells can then no longer send messages to the brain and hearing is lost. The damage often remains unnoticed until it is too late.

Excessive noise may not only result in permanent hearing loss, but it may also be linked with other problems such as fatigue, irritability and headaches. It may cause dizziness, raise blood pressure and increase heart rate. Noise may increase the risk of accidents by disguising sounds of approaching danger or warnings. It may affect balance, concentration and communication among co-workers.

8.5.3 What are the legal requirements to reduce exposure to noise?

Senior managers have a legal responsibility under the WHS Act and Regulations to manage the risks of hearing loss associated with noise at the workplace, including:

- Ensuring that the noise a worker is exposed to at the workplace does not exceed the exposure standard for noise
- Providing audiometric testing to a worker who is frequently required to use personal hearing protectors to protect the worker from hearing loss.

Workers have a legal responsibility to take reasonable care for their own health and safety and that they do not adversely affect the health and safety of other persons. Workers must comply with any reasonable instruction and cooperate with any reasonable policy or procedure relating to health and safety at the workplace. For example, if personal hearing protectors are provided the worker must use them in accordance with the information, instruction and training provided on their use.

Sources of information on managing noise and preventing hearing loss at work

Sources of information on managing noise and preventing hearing loss include:

- *Model Code of Practice - Managing Noise and Preventing Hearing Loss at Work,* February 2015, Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/managing-noise-preventing-hearing-loss-cop
- *'Noise hazards identification checklist'* from the Safe Work Australia *'Model Code of Practice - Managing Noise and Preventing Hearing Loss at* Work' is included as an appendix in this guide.

8.5.4 How are the risks of hearing loss controlled?

The Safe Work Australia *'Model Code of Practice - Managing Noise and Preventing Hearing Loss'* provides guidance on how to manage the risks of hearing loss associated with noise with management following a systematic process that involves:

- Identifying sources of noise that may cause or contribute to hearing loss
- Assessing the risks associated with these hazards
- Implementing risk control measures
- Reviewing risk control measures.

Identifying sources of hazardous noise

Source of noise may be identified by conducting workplace inspections and talking with workers. Available information such as workers compensation claims, manufacturers specifications and industry risk information may help identify sources of excessive noise.

Assessing risks

Senior management may then contract a competent person to assess the risks by carrying out a noise assessment to:

- Identify which workers are at risk of hearing loss
- Determine what noise sources and processes are causing that risk
- Identify if and what kind of noise control measures could be implemented
- Check the effectiveness of existing control measures.

Implementing risk control measures

The WHS Regulations require management to work through a hierarchy of controls to choose the control measures that most effectively eliminate or minimise the risk in the circumstances. The most effective control measure is to eliminate the source of noise completely, for example by ceasing to use a noisy machine, changing the way work is carried out so hazardous noise is not produced or by not introducing the hazard into the workplace.

If it is not reasonably practicable to eliminate the source of noise, management must minimise the risk associated with hearing loss so far as reasonably practicable. This includes ensuring that the noise does not exceed the exposure standard by implementing one or more of the following controls:

- Substituting the hazard with plant or processes that are quieter
- Modifying plant and processes to reduce the noise using engineering controls
- Isolating the source of noise from people by using distance, barriers, enclosures and sound- absorbing surfaces.

If there is a remaining risk, it must be minimised so far as reasonably practicable by implementing administrative controls, and if a risk still remains, then suitable PPE must be provided and used. These two types of control measures, when used on their own, tend to be least effective in minimising risks because they only create a barrier between the person exposed and the noise and they rely on human behaviour and supervision.

8.5.5 What is the maintenance manager's role in reducing noise hazards?

Maintenance managers will generally participate in the risk management process related to identifying noise risks in the workplace , assessing the risks and identifying and implementing control measures to reduce exposure. Wherever possible the control measures will be engineering controls such as:

- Eliminating or replacing the plant or its operation by a quieter operation with equal or better efficiency eg, replace rivets with welds
- Making design changes to reduce specific noise sources eg, avoid metal-to-metal contact with the use of nylon or polyurethane bumpers, improved gearing
- Correcting specific machine elements causing the noise eg, adding vibration isolation mounting, mufflers or silencers
- Ensuring plant is maintained properly eg, replacing worn bearings and gears, improving lubrication, tightening loose parts (particularly guards), tensioning slapping belts, balancing all rotating parts and preventing air or steam leaks
- Organising schedules so that noisy work is done with as few workers as possible present planning to even out the workload and avoid busy times when machines are operating for longer hours
- Keeping workers out of noisy areas if their job does not require them to be there job rotation ie, rotating workers out of noise affected areas for periods of time to reduce noise exposure.
- Isolating vibrating machine parts to reduce noise from vibrating panels or guards
- Modifying materials handling processes to reduce the impact noise during handling and transport as far as possible eg, minimising the fall height of items on to hard surfaces, fixing dampening materials or stiffening panels to surfaces that are struck by materials or items during processing, absorbing shock through providing wear- resistant rubber or plastic coating, using conveyors instead of rollers (which are more likely to rattle) and controlling speed to better match production flow, thereby reducing noise generation due to stop-start impact noise.
- Isolating noise emitting equipment away from the majority of the work population eg, pumps, air compressors, fans
- Isolating the noise source or the workers in an acoustic enclosure while distance is often the cheapest solution, it may not be effective in cases of excessive reverberation in some areas eg, with bone crushers
- Use of full or partial partitions or barriers between the source of the noise and the receiver, especially when noise-absorbing material is used on the noise source side
- Walls and enclosures designed to limit noise can be constructed using sound absorbing as well as sound blocking elements ie, the denser and heavier the material the better the noise barrier eg, steel, brick, concrete, lead.
- The use of traditional sound-absorbing materials (ie, polyurethane foams, rock wool, fibreglass, carpet) are often not practical in the abattoir environment due to the difficulty of cleaning and contamination risk.

8.5.6 What is the worker's role in reducing noise hazards?

Workers should cooperate in all activities aimed at hearing protection. It is important to wear hearing protection in designated noise areas and report to the supervisor any noisy areas or changes in noise levels, eg equipment that has suddenly become noisier.

Hearing protection should be regularly tested for defects, properly fitted and worn, cleaned and maintained, replaced as appropriate, and properly stored.

8.6 Working alone or undertaking isolated work

8.6.1 What are the WHS legal requirements related to isolated work?

The WHS regulations require that persons conducting a business or undertaking must manage the risks associated with remote or isolated work, including ensuring effective communication with the worker carrying out remote or isolated work.

Case study – working alone

This case highlights the risks of working alone. A female optical technician was working alone when an elderly customer attended the shop wanting his glasses adjusted. The optical technician tried the glasses on the customer and then took the glasses to the workshop at the back of the shop to make the necessary adjustments. The customer followed her and sexually assaulted her. The impact of the assault was substantial. She developed post traumatic stress disorder and depression. She received ongoing treatment and hospitalisation. The employer had no internal security measures to protect their staff.

The Court said the following:
'An obvious way to reduce the risk of such assault is to have mechanisms in place which enable an employee who is alone and in a situation where she or he does not have the protection of being able to be seen by members of the general public to exclude others from the work space. This would involve no more than placing a door capable of being shut and locked between the employee and the access to the employee's workspace. In order to prevent the surprise which generated the plaintiff's inability to repel the assault until it had happened, all that would be needed would be an infrared beam between the open entry to the back section of the shop which would be triggered if someone entered the area. The first option would have prevented Mr Bartholomaeus (or any other assailant) from following her into the back section of the shop. The second option would have alerted her to his ingress enabling her to be aware of his presence and therefore not to have her back to him and to have been in a much better position to fend off any attack. Neither option would have been expensive, difficult or inconvenient.'

The total cost to provide such security was $1,500. Contrast that with a damages award to the optical technician of $387,633.82.

8.6.2 What is isolated work and why can it be dangerous?

Working alone or undertaking isolated work is described as working anywhere where a person is unable to access immediate assistance from colleagues or other people dues to due to the location, time or nature of the work. Working alone may increase the likelihood of some workplace hazards or risks occurring, and when incidents occur, the consequences may be more severe when people work alone.

Examples where maintenance personnel in meat processing plants may be working alone and/or in remote situations include:

- Monitoring environmental systems such as ponds, pits etc
- Working in roof spaces and other spaces that aren't normal work areas
- Working on plant in breaks in production
- Working out of normal working hours when production has stopped
- Working during plant shutdown when there are no production staff
- Working on specific projects such as building or replacement projects
- Staff shortages resulting in insufficient staff to resource tasks adequately.

8.6.3 How is isolated work managed safely?

WHS legislation requires managers to take a systematic approach to identify and control risks to make work as safe as possible. Managers must take a risk management approach to ensure isolated work is as safe as possible. This involves:

- Examining your work practices and identifying the situations where an employee may be required to work alone
- Undertaking risk assessments of the situations in which employees may be working alone
- Developing and implementing controls to prevent those risks
- Engage with staff to identify, assess and control the hazards of isolated work
- Inform and train staff in controls to undertake isolated work safely.

The following factors should be considered when assessing the risks:

- The length of time the person may be working alone
- The time of day when a person may be working alone
- Forms and procedures for communicating with the worker and whether they are accessible and work under all situations
- The location of the work
- The nature of the work - machinery, tools and equipment used, high risk activities eg work at heights, work with electricity
- Fatigue
- Violence or aggression
- Environmental factors, eg exposure to extreme hot or cold environments
- Attack by an animal, including stock, horses, dogs, wild animals, reptiles, insects
- The skills and capabilities of the workers
- Pre-existing medical condition that may increase risk

Controls that may reduce the risks of isolated work include:

Buddy system – some jobs present such a high level of risk that workers should not work alone, for example jobs carried out in confined spaces.

Workplace layout and design – eg workplaces and their surrounds can be designed to reduce the likelihood of attacks from stock, for example by installing physical barriers, monitored CCTV and enhancing visibility.

Communication systems – the type of system chosen will depend on the distance from the base and the environment in which the worker will be located or through which he or she will

be travelling. Expert advice and local knowledge may be needed to assist with the selection of an effective communication system.

Movement records – knowing where workers are expected to be can assist in controlling the risks, for example call-in systems with supervisors or colleagues. Satellite tracking systems or devices may also have the capability of sending messages as part of a scheduled call in system, and have distress or alert functions.

Training, information and instruction – workers need training to prepare them for working alone and, where relevant, in remote locations. For example, training in dealing with potentially aggressive clients, using communications systems, administering first aid, obtaining emergency assistance driving off-road vehicles or bush survival.

Sources of information on isolated work

Sources of information on isolated work include:

- *Working alone*, WorkSafe Victoria. http://www.worksafe.vic.gov.au/safety-and-prevention/health-and-safety-topics/working-alone
- *Model Code of Practice - Managing the Work Environment and Facilities*, December 2011, Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/environment-facilities-cop

8.7 Lighting

8.7.1 What are the WHS legal requirements for lighting?

The WHS Regulations require that a person conducting a business or undertaking (PCBU) ensures, so far as is reasonably practicable, that lighting enables:

- Each worker to carry out work without risk to health and safety
- Persons to move within the workplace without risk to health and safety
- Safe evacuation in an emergency.

These requirements apply to all workplaces, not just construction sites.

Lighting from natural and/or artificial sources needs to be provided for employees to ensure working conditions that are appropriate to the nature of the work, the location of the work and the times at which the work is performed.

Poor lighting and/or the lack of emergency lighting and illuminated signage during power failure or emergency situations can lead to serious workplace incidents. These incidents could affect both workers and others.

Lighting systems should be considered at the design and installation phases. Lighting should:

- Be able to accommodate changes in work activities and progression of construction

- Ensure the safety of people so that hazards are visible and well lit
- Take types of work task into account
- Create a suitably lit work environment
- Provide a safe and comfortable visual environment.

9.0 Accident management

9.1 What is an accident?

An accident is any event that may result in injury or illness to a person, and/or damage to plant and/or property.

9.2 What is an incident?

An incident is when the same event occurs but there was no injury or damage. Incidents may be described as 'near misses'. Incidents are warning signs and indicate an accident may happen. This is why incidents are reported in addition to accidents.

9.3 What happens after an accident or incident?

All incidents/accidents must be reported to supervisors and an investigation conducted as soon as possible to identify and rectify factors that may have contributed to the accident. In addition, WHS legislation requires the reporting of serious accidents (that result in hospitalisation of an injured worker) to the relevant WHS authority.

Following an accident:

- First aid and medical assistance is provided to the injured person as appropriate
- Any faulty equipment or machinery should be tagged and locked out
- The accident or incident report form should be filled in
- An investigation into the factors contributing to the accident should be conducted
- Control measures identified and implemented to rectify the factors contributing to the incident/accident.

In cases of serious injury or death, inspectors from the relevant government WHS regulatory authority will conduct an investigation.

The goal of accident or incident investigation is to identify the factors that may have contributed to the accident, and put in place appropriate controls so the accident will not happen again.

9.4 What is the worker's role after an accident?

An employee should seek treatment for any injury and should report all workplace accidents to their supervisor according to their workplace procedures.

9.5 What are notifiable incidents?

The WHS Act sets out certain types of workplace incidents that need to be notified to regulators. Only the most serious safety incidents are intended to be notifiable and they trigger requirements to preserve the incident site pending further direction from the regulator.

Notifiable incidents are:

- The death of a person

- A 'serious injury or illness', or
- A dangerous incident arising out of work carried out by a business, undertaking or a workplace.

Notifiable incidents relate to any person—whether an employee, contractor or member of the public.

If a notifiable incident occurs the WHS Act sets out that the organisation must:

- Notify the regulator immediately after becoming aware of it
- Must make written notification with 48 hours of the request if the regulator asks, and
- Must preserve the incident site until an inspector arrives or directs otherwise.

Your workplace will have a procedure for reporting a serious accident or event and not disturbing the accident area. If you are a supervisor you may be required to initiate this procedure.

Detailed information on the reporting of incidents that must be notified to regulators, including a description of what incidents need to be reported and contact details for regulators in each jurisdiction may be located at http://www.safeworkaustralia.gov.au/sites/swa/whs-information/workplace-incidents-reporting/pages/workplace-incidents-reporting

Sources of information on managing accidents

Sources of information on managing accidents include:

- *Incident Notification Fact Sheet,* Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/incident-notification-fact-sheet
- *Workplace incidents reporting - Safe Work Australia* http://www.safeworkaustralia.gov.au/sites/swa/whs-information/workplace-incidents-reporting/pages/workplace-incidents-reporting

9.6 What first aid is available?

All meat processing plants are required to provide first aid facilities. The requirements are set out in legislation and will vary from the provision of first aid kits and first aid officers to an on-site nurse.

Responsibilities

It is the responsibility of the manager or supervisor of each area to ensure the workers:

- Are aware of the designated first aid officer
- Know the location of the first aid kits and/or rooms
- Know the procedure to follow when first aid is required
- Ensure an injured worker receives first aid
- Initiate accident reporting and investigation procedure

- Participate in the accident investigation process
- Implement control measures arising from the accident investigation
- Monitor implementation to confirm that the controls have eliminated the contributing factors and haven't cause any new problems.

9.7 What records are kept of accidents?

It is important to keep records so that cumulative data can be examined and patterns identified and addressed. It is also important to keep records as evidence that you are meeting your legal responsibilities and complying with legislation.

Records are kept of:

- Accident reports
- Accident investigations and implementation and monitoring of corrective actions
- Safety performance over time such as monthly reports of incidents, accidents, inspections etc

9.8 Why investigate accidents?

Accidents must be investigated:

- So that factors contributing to the accident may be identified and rectified to prevent recurrence
- So that the event is recorded and records kept which may be used to identify trends and form a basis for planning prevention programs
- To comply with WHS legislation related to reporting accidents and to comply with workers compensation legislation related to lodging of a claim for workers' compensation.

9.9 How are accidents investigated?

The goal of accident investigation is to identify everything that has contributed to the accident, so that appropriate action can be taken to ensure a similar accident does not happen again.

Accidents are rarely, if ever, caused by a single event. There may be one or more hazards and associated risk factors.

The steps in an accident investigation include gathering the information, establishing the facts and finding out the circumstances that led to the accident. The hazards that contributed to the accident must be identified. The hazard may be related to:

- The worker (eg posture, height, other physical and psychological conditions etc)
- The work (eg layout, organisation of work, equipment used etc)
- The working environment (eg light, noise, temperature, distractions etc)

Next, the information must be analysed, considering the hazards and the risk factors, what controls were in place, whether they were adequate, what other control options could be put

in place. The hierarchy of controls should be used to consider the effectiveness of the safety aspects of the current work procedure and to consider all other possible options.

Next, controls must be recommended and the action to follow – what is to occur, who is responsible and when it is to occur.

9.10 What is the role of management in the investigation of accidents?

The accident investigation should be conducted by the supervisor of the area where the accident occurred. This is because supervisors are, in the first instance, directly responsible for the health and safety of their employees. Other workplace personnel such as the health and safety representative and the WHS manager may also participate in the investigation process. Having identified the factors contributing to the accident, the supervisor is then responsible for rectifying the factors so that the accident does not happen again. Solutions should focus on eliminating the hazards.

The supervisor is also responsible for following the procedures related to the site's accident reporting and investigations, including meeting reporting requirements within specified timeframe. The form may for example be circulated to the human resources manager and the WHS committee.

If the supervisor cannot fix the problem, or does not have the authority to rectify the problem, then the accident investigation report should be directed to management and/or the person with authority to make the required decision, for example the maintenance department.

10.0 Emergency planning, preparedness and response

10.1 What are the legal requirements for emergency planning?

Regulation 43 requires a PCBU at a workplace to ensure that an emergency plan is prepared for the workplace which provides for specified procedures including effective response to an emergency, evacuation procedures, medical treatment and assistance, and effective communication between the person authorised by the PCBU to coordinate the emergency response and all persons at the workplace. The maximum penalty for a contravention of this regulation is $6 000 for an individual and $30 000 for a body corporate.

10.2 What role does maintenance management play in emergency planning?

In general, senior maintenance management in meat processing plants play a significant role in emergency planning and the development of emergency procedures as well as emergency response. This is due to their responsibility for maintenance on site and their detailed knowledge of the whole site.

Senior maintenance management will play a significant role in emergency planning including the development of the site's emergency plan, emergency procedures and testing the procedures. They will also play a lead role in emergency drills and emergency response and generally hold the position of chief warden at the site.

10.3 What types of emergencies should be covered in an emergency plan?

The emergency plan should be based on a practical assessment of hazards associated with the work activities and the workplace, and the possible consequences of an emergency occurring as a result of those hazards. The types of emergencies to plan for may include fire, explosion, medical emergency, rescues, incidents with hazardous chemicals, bomb threats, armed confrontations and natural disasters such as floods.

10.4 What is an emergency plan?

A risk management approach is taken to emergency planning. This involves identifying all possible types of emergencies and putting procedures in place to minimise the likelihood and consequences of those emergencies occurring. The emergency plan aims to prevent or minimise injuries and damage to property from any emergency. In general, an emergency plan includes:

- The types of emergencies that may occur at that site
- The steps to be taken in the event of each of the potential emergencies, including evacuation procedures, contacting emergency services, and shut down
- Other activities such as maintenance of fire extinguishers, warning systems and emergency lighting
- The responsibilities of all on-site personnel
- Training for all employees on the emergency plan
- Emergency procedures, including: an effective response to an emergency
- Evacuation procedures

- Notifying emergency service organisations at the earliest opportunity
- Medical treatment and assistance
- Effective communication between the person authorised to coordinate the emergency response and all people at the workplace
- Testing of the emergency procedures—including the frequency of testing
- Information, training and instruction to relevant workers in relation to implementing the emergency procedures.

Additional practical information that should be included in emergency plans includes:

- Emergency contact details for key personnel who have specific roles or responsibilities under the emergency plan, for example fire wardens, floor wardens and first aid officers
- Contact details for local emergency services, for example police, fire brigade and poison information centre
- A description of the mechanisms for alerting people at the workplace to an emergency or possible emergency, for example siren or bell alarm
- Evacuation procedures including arrangements for assisting any hearing, vision or mobility-impaired people
- A map of the workplace illustrating the location of fire protection equipment, emergency exits, assembly points
- Triggers and processes for advising neighbouring businesses about emergencies, and
- The post-incident follow-up process, for example notifying the regulator, organising trauma counselling or medical treatment
- Procedures for testing the emergency plan including the frequency of testing must be included.

10.5 What are evacuation procedures?

In general for an emergency that requires evacuation, you should follow your emergency evacuation procedures. The priority is to get everyone in your area safely evacuated. Other duties will generally include:

- Raising the alarm and responding to the alarm
- Assisting anyone in danger if this does not place you in danger
- Evacuating to the nominated assembly area
- Following your workplace procedures for making sure everyone is evacuated from your area
- Restricting the danger area by closing fire doors
- Remaining in your evacuation assembly area until everybody is accounted for.

10.6 Who has responsibilities in emergency evacuation and what are those responsibilities?

In an emergency evacuation managers and supervisors have responsibilities to ensure:

- All workers (including contractors, visitors and other who may be in the area) are aware of the site emergency evacuation procedures, including:

  - how to raise the alarm
  - the evacuation exits
  - the assembly areas
- All personnel in the area follow the procedures in the event of the alarm being activated
- They fulfil their role in evacuation in accordance with their evacuation procedures, eg alerting the fire brigade, ensuring all personnel have left their areas, closing fire doors
- Evacuation proceeds in line with the evacuation procedures and all personnel are accounted for.

Workers have the responsibility to follow evacuation procedures for their area, proceed to the assembly point for their area and remain there to be marked off and until further instruction.

Some personnel will have specific duties such as fire warden for their area or chief fire warden for the site. They will receive specific training for their roles. Other training will be conducted such as the use of on-site fire fighting equipment. Only personnel who have received training should use fire fighting equipment such as fire extinguishers. The first priority is always to safely evacuate personnel from the area.

10.7 What training should your organisation have for emergencies?

Workers must be adequately trained in emergency procedures. Arrangements for information, training and instruction of workers must be set out in the emergency plan itself.

Training may include practising evacuations, identifying assembly points, location of emergency equipment, first aid arrangements and how to safely shut down machinery.

In determining training requirements, the following should be considered:

- Inclusion of emergency procedure training in induction courses for new workers
- Provision of refresher training for existing workers
- Provision of training for short-term contractors or visitors at the workplace (this may not need to be as extensive as may be required for workers)
- Provision of specific training for individuals who have a formal role in an emergency for example fire wardens, floor wardens, first aid officers.

Sources of information on emergency planning

Sources of information on emergency planning include:

- *Model Code of Practice - Managing the Work Environment and Facilities*, December 2011, Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/environment-facilities-cop
- The *'Emergency plans checklist'* from the Safe Work Australia *'Model Code of Practice - Managing the Work Environment and Facilities'* is included in the appendices of this guide.
- *Emergency plans fact sheet*, Safe Work Australia. http://www.safeworkaustralia.gov.au/sites/swa/about/publications/Documents/657/Emergency_plans_fact_sheet.pdf

11.0 Workers compensation and rehabilitation programs

11.1 What are workers compensation requirements?

If accidents occur, and workers are injured, workers compensation claim procedures and occupational rehabilitation may be required.

Employers must comply with the requirements of their state or territory Workers Compensation Act. It is compulsory for employers to hold workers compensation insurance.

In general, compensation for the injured worker may include payment for medical treatment, weekly payments to compensate for loss of wages, lump sum payments to compensate for permanent disability, a payment for pain and suffering and rehabilitation costs.

11.2 What is the role of management in workers compensation?

Most companies will have a specific person who deals with the management of the claims and liaison with the insurer.

If a workers compensation claim is required, the supervisor should:

- Provide a claim form and information on lodging a claim
- Direct the employee to the appropriate workers compensation officer or human resource person.

The supervisor may be consulted with regard to some aspects of filling in the claim form.

11.3 What are the rehabilitation/return to work requirements?

The rehabilitation sections of the relevant state Workers Compensation Act stipulates that employers must provide rehabilitation services to employees who are off work, or not fully fit for their normal duties, as a result of a workplace related event.

To do this the workplace needs at least:

- A management system setting out policies and procedures for rehabilitating/returning workers to work
- A coordinator of the rehabilitation program in the workplace
- Access to the services of rehabilitation providers who can assist with the return to work program. Rehabilitation service providers are external experts with technical expertise in returning injured workers to work.

If an ill or injured person requires rehabilitation, a plan for their rehabilitation/return to work must be prepared with that person's participation.

The plan is developed in consultation with the rehabilitation coordinator, injured worker, supervisor, treating doctor and possibly a rehabilitation service provider. The plan generally sets out a graduated return to work program that may involve finding alternate suitable work during the return to work program and/or permanent alternative work if the person is unable to return to their former job. The supervisor works with the ill or injured worker to help

supervise the implementation of their plan. The ill or injured worker follows their plan until they have reached their full potential. An agreement must be reached between all parties that rehabilitation is complete.

12.0 Appendix One: Inspection checklists

The following checklists are sample checklists that have generally been sourced from the WHS regulatory authorities, in most cases from the relevant Model Codes of Practice for the hazard area. These checklists may be used as the basis for customisation to the specific requirements for your plant.

12.1 Contractor WHS management checklist

This checklist aims to ensure that contractors work safely on meat processing plant sites and follow the site's safety procedures in the course of their work so that contract work is conducted safely to specifications.

The checklist is designed to be completed by meat processing company personnel who are responsible for managing contractors undertaking contract work in meat processing plants. These personnel are called contractor supervisors in this checklist. They are most likely to be maintenance personnel (qualified tradespersons and/or maintenance supervisors or managers).

The checklist should be modified to meet the needs of specific contracts, the nature of the work being conducted, and the specific WHS and work procedures of your meat processing plant. The checklist is not designed to cover the requirements for high risk construction work.

Contract details		
Title of contract	**Contractor company name**	
Principal contractor name and contact	**Site contractor supervisor name and contact**	
Brief description of contract	**Contractor contact details**	
Duration of the contract **Start date:**	**Completion date:**	
WHS items	**Yes or no**	**If no, comments and resolution**
Work health and safety in the tender specifications		
General contractor WHS management system		
Contractor company details including ABN, registration and insurance details		
Names, licenses, qualifications and registration of individuals conducting the work		
Issues from a contractor sub-contracting work to others have been addressed and WHS confirmed across all workers		
Components of contractor WHS management system cited and include work instructions, risk management program, workplace inspections, consultation processes, accident reporting and investigation, emergency procedures		
Induction and training processes		
WHS record-keeping		

Specific WHS management system for work to be conducted in the contract		
Breakdown of contract work into tasks/steps		
Risk management for each task that includes identification of hazards, assessment of risks and identification and implementation of controls that reduce risks to lowest possible levels, arrangements for monitoring and reviewing during work		
Work instructions cited for tasks		
Inspections of work area as required		
Safety requirements identified for work area (eg cordoning area off) and how this information is relayed to staff		
Emergency procedures (as required)		
Safe housekeeping practices		
Tender evaluation		
Assessment of the contractor's WHS systems by a person with the skills and experience to make the assessment		
WHS information collected for all personnel conducting the work including sub-contractors		
Need for more WHS information?		
The contract		
Meat processing company policies and procedures		
Meat processing company contractor supervisor identified and principal contractor informed		
Principal contractor conducting work identified and company contractor supervisor informed of name and contact details		
WHS roles, responsibilities and reporting requirements for contract		
Supervision requirements determined		
Safety requirements for work area eg cordoning area off		
Risk management processes for reducing risks to lowest possible levels for work in contract		
Methods, purposes and schedule of communication for contract		
Procedure for handling any changes in the work to be conducted in the contract		
Contract reporting and record-keeping procedures for inductions, training, incidents, hazards, meetings, communication, process if non-compliance with company WHS procedures		
Contractor register		
Enter contractor data onto contractor register		
Ensure company information and WHS management system information provided to contractor as appropriate		
Star to collect contractor data and performance information for possible inclusion on preferred contractor list as appropriate		
Contractor induction		
Ensure every contractor and sub-contractors (as appropriate) participate in company induction program		

Maintain records of personnel who have completed induction program		
Ensure contractors and/or any sub-contractors have information on Q fever, have Q fever vaccination (with 2 weeks to build immunity before entering site), bring proof of vaccination and keep records of vaccinations		
Preparation for start-up of work		
Consult with contractor about any shared responsibilities on site and how they'll be managed		
Consult with contractor to review the work to be done		
Consult with contractor about implications of the work for the area in which its been done and how they'll be managed		
Consult with the contractor to review the hazards, associated risks and control measures		
Onsite management and supervision of contractors		
Confirm contractors have had Q fever vaccination and time to build immunity after vaccination (at least two weeks)		
Confirm contractors have attended the onsite induction prior to entry to site		
Meet contractors on arrival, complete sign in, provide PPE and escort them to work area		
Review work to be done and risk management in consultation with the supervisor of the area		
Review site WHS requirements with contractors		
Review methods of resolving and documenting non-compliance with WHS procedures		
Contractor record-keeping and evaluation		
Ensure contractor follows company WHS procedures in regard to reporting hazards, incidents, first aid etc		
Complete your company record-keeping procedures for WHS and contractors		
Summary Signature Date		

12.2 Plant hazard checklist

This checklist is the '*Plant hazard checklist'* from the *'Model Code of Practice - Managing the Risks of Plant in the Workplace,* Safe Work Australia pages 42 – 45

Description of plant: _____

Activities (e.g. use, cleaning and maintenance):

_____

Assessed by: _____

Date: _____

'Yes' to any of the following indicates the need to implement appropriate control measures

Entanglement	**YES**	**NO**
Can a person's hair, clothing, gloves, necktie, jewellery, cleaning brush or rag become entangled with moving parts of the plant?		
Crushing	**YES**	**NO**
Can anyone be crushed due to: • material falling off the plant? • uncontrolled or unexpected movement of the plant? • lack of capacity for the plant to be slowed, stopped or immobilised? • the plant tipping or rolling over? • parts of the plant collapsing? • coming into contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair? • being thrown off or under plant? • being trapped between the plant and materials or fixed structures? • other factors not mentioned?		
Cutting, Stabbing or Puncturing	**YES**	**NO**
Can anyone be stabbed or punctured due to: • coming in contact with sharp or flying objects? • coming in contact with moving parts during testing, inspection, operation, maintenance, cleaning or repair? • the plant, parts of the plant or work pieces disintegrating? • work pieces being ejected? • the mobility of the plant? • uncontrolled or unexpected movement of the plant?		

Description of plant: _____

Activities (e.g. use, cleaning and maintenance):

_____

Assessed by: _____

Date: _____

'Yes' to any of the following indicates the need to implement appropriate control measures

• other factors not mentioned?		
Shearing	**YES**	**NO**
Can anyone's body parts be sheared between two parts of the plant, or between a part of the plant and a work piece or structure?		
Striking	**YES**	**NO**

Can anyone be struck by moving objects due to: • uncontrolled or unexpected movement of the plant or material handled by the plant? • the plant, parts of the plant or work pieces disintegrating? • work pieces being ejected? • mobility of the plant? • other factors not mentioned?		
High Pressure Fluid	**YES**	**NO**
Can anyone come into contact with fluids under high pressure, due to plant failure or misuse of the plant?		
Electrical	**YES**	**NO**
Can anyone be injured by electrical shock or burnt due to: • the plant contacting live electrical conductors? • the plant working in close proximity to electrical conductors? • overload of electrical circuits? • damaged or poorly maintained electrical leads and cables? • damaged electrical switches? • water near electrical equipment? • lack of isolation procedures? • other factors not mentioned?		
Explosion	**YES**	**NO**
Can anyone be injured by explosion of gases, vapours, liquids, dusts or other substances, triggered by the operation of the plant or by material handled by the plant?		
Slipping, Tripping and Falling	**YES**	**NO**
Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to: • uneven or slippery work surfaces? • poor housekeeping e.g. offcuts, cables, hoses obstructing walkways, spills not cleaned up? • obstacles being placed in the vicinity of the plant? • other factors not mentioned?		
Can anyone fall from a height due to: • lack of a proper work platform? • lack of proper stairs or ladders? • lack of guardrails or other suitable edge protection?		

• unprotected holes, penetrations or gaps? • poor floor or walking surfaces, such as the lack of a slip-resistant surface? • steep walking surfaces? • collapse of the supporting structure? • other factors not mentioned?		
Ergonomic	**YES**	**NO**
Can anyone be injured due to: • poorly designed seating? • poorly designed operator controls? • high forces? • repetitive movements? • awkward body posture or the need for excessive effort? • vibration? • other factors not mentioned?		

12.3 Hazardous chemicals risk assessment checklist

This checklist has been sourced from the Safe Work Australia, *Model Code of Practice - Managing Risks of Hazardous Chemicals in the Workplace.*

Questions	Yes	No
1. Does a risk assessment need to be carried out?	☐	☐
2. Has it been decided who should carry out the risk assessment?	☐	☐
3. Have all the hazardous chemicals in the work place been identified? Has a hazardous chemical register been produced?	☐ ☐	☐ ☐
4. Has information about the hazardous chemicals been gathered? *(refer to labels, SDS, placards and relevant Australian Standards for the type of hazardous chemical)*	☐	☐
Q. 5 – 9 should be answered for each hazardous chemical or each process where hazardous chemicals are used in the workplace		
5. Have you checked other records associated with the hazardous chemical? *(Consider previous assessments, monitoring records, injury or incident records, induction training, task-specific training etc)* If 'Yes', are there any hazardous chemical previously assessed as 'high' or as 'significant risk'? Specify the risk(s):	☐ ☐	☐ ☐
6. Does the chemical have health hazards? *(consider potential acute / chronic health effects and likely route of entry)*	☐	☐
7. Does the hazardous chemical have physicochemical hazards?	☐	☐
8. Does the hazardous chemical have an exposure standard? *(refer to the Workplace Exposure Standards for Airborne Contaminants)*	☐	☐
9. Do workers using the hazardous chemical require health monitoring? *(refer to Part 7.1, Division 6 and Schedule 14 of the WHS Regulations)* If 'Yes', air monitoring may be required.	☐	☐
10. Are workers, or can workers be potentially, exposed to hazardous chemicals at the workplace, including by-products and waste?	☐	☐

Questions	Yes	No
For each hazardous chemical or group of hazardous chemicals in the work unit, find out: • Is the substance released or emitted into the work area? • Are persons exposed to the chemical? • How much are the persons exposed to and for how long? *Air monitoring may be required to determine exposure* • Are there any risks associated with the storage and transport of the chemical? Have all hazardous chemicals in the workplace been identified? If not, repeat Q.2 for the next hazardous substance.		
11. Are control measures currently in the workplace well maintained and effective in controlling the hazards? If 'No', take appropriate action	☐	☐
12. What are the conclusions about risk? Only answer 'Yes' to one conclusion. • Conclusion 1: Risks are not significant • Conclusion 2: Risks are significant but effectively controlled If you answer Yes to conclusion 1 or 2, go to Q.14. • Conclusion 3: Risks are significant and not adequately controlled • Conclusion 4: Uncertain about risks If you answer 'Yes' to conclusion 3 or 4, go to Q.13.		
13. Have actions resulting from conclusion about risks been identified? • Seek expert advice • Requires appropriate control measure • Requires induction training • Requires on-going monitoring • Requires health monitoring • Requires emergency procedures and first aid		
14. Has the assessment been recorded?	☐	☐

12.4 Noise hazards identification checklist

This checklist is sources from the Safe Work Australia *'Model Code of Practice - Managing Noise and Preventing Hearing Loss at Work.'*

Description of work location:_____

Activities at workstation:_____

Assessed by:_____

Date:_____

'Yes' to any of the following indicates the need to carry out a noise assessment if exposure to the noise cannot be immediately controlled.

Hazard identification questions	Yes	No
Is a raised voice needed to communicate with someone about one metre away?		
Do your workers notice a reduction in hearing over the course of the day? (This may only become noticeable after work, for example, needing to turn up the radio on the way home)		
Are your workers using noisy powered tools or machinery?		
Are there noises due to impacts (such as hammering, pneumatic impact tools) or explosive sources (such as explosive powered tools, detonators)?		
Are personal hearing protectors used for some work?		
Do your workers complain that there is too much noise or that they can't clearly hear instructions or warning signals?		
Do your workers experience ringing in the ears or a noise sounding different in each ear?		
Do any long-term workers appear to be hard of hearing?		
Have there been any workers' compensation claims for noise-induced hearing loss?		
Does any equipment have manufacturer's information (including labels) indicating noise levels equal or greater than any of the following:		
(a) 80 dB(A) LAeq,T (T= time period over which noise is measured)?	☐	☐
(b) 130 dB(C) peak noise level?	☐	☐

Hazard identification questions	Yes	No
(c) 88 dB(A) sound power level?		
Do the results of audiometry tests indicate that past or present workers have hearing loss?		
Are any workers exposed to noise and ototoxins in the workplace?		
Are any workers exposed to noise and hand-arm vibration?		

12.5 Emergency plans checklist

The following emergency plans checklist is sourced from the SafeWork Australia *'Model Code of Practice - Managing the Work Environment and Facilities.'*

Emergency plans	✓/✗	Action to be taken
Is there a written emergency plan covering relevant emergency situations, with clear emergency procedures?		
Is the plan accessible to all workers?		
Are workers, managers and supervisors instructed and trained in the procedures?		
Has someone with appropriate skills been made responsible for specific actions in an emergency (e.g. appointment of an area warden)?		
Is someone responsible for ensuring workers and others in the workplace are accounted for in the event of an evacuation?		
Are emergency contact details relevant to the types of possible threats (e.g. fire, police, poison information centre) displayed at the workplace in an easily accessible location?		
Are contact details updated regularly?		
Is there a mechanism, such as a siren or bell alarm, for alerting everyone in the workplace of an emergency?		
Is there a documented site plan that illustrates the location of fire protection equipment, emergency exits and assembly points?		
If there is a site plan and is it displayed in key locations throughout the workplace?		
Are procedures in place for assisting mobility-impaired people?		
Does the workplace have first aid facilities and emergency equipment to deal with the types of emergencies that may arise?		
Is the fire protection equipment suitable for the types of risks at the workplace (e.g. foam or dry powder type extinguishers for fires that involve flammable liquids)?		
Is equipment easily accessible in an emergency?		

Are workers trained to use emergency equipment (e.g. fire extinguishers, chemical spill kits, breathing apparatus, lifelines)?		
Have you considered neighbouring businesses and how you will let them know about an emergency situation should one arise?		
Have you considered the risks from neighbouring businesses (e.g. fire from restaurant/takeaway food outlets, Q fever from cattle yards)?		
Are emergency practice runs (e.g. evacuation drills) regularly undertaken to assess the effectiveness of the emergency plan?		
Is someone responsible for reviewing the emergency plan and informing staff of any revisions?		