

Procedure ID no 13 / 2018

# PLANT MANAGEMENT PROCEDURE

This procedure is applicable to: all DECD employees.

## **DOCUMENT CONTROL**

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# **CONTENTS**

1.	TITLE	
2.	PURPOSE	3
3.	SCOPE	3
4.	OBJECTIVES	3
5.	DUTIES AND RESPONSIBILITIES	3
	5.1 Work Health and Safety Duties	3
_	5.2 Roles and Responsibilities	
6.	PROCEDURE DETAIL  6.1 Consultation, Representation and Participation  6.2 Purchase or Acquisition of New and / or Second Hand Plant  6.3 Construction, Erection, Installation and Commissioning of Plant  6.4 Alterations to or Interference with existing Plant  6.5 Supply of Plant to Other Persons  6.6 Hire, Lease or Loan of Plant  6.7 Decommissioning, Dismantling and Disposing of Plant  6.8 Hazard Management Process  6.9 Safe Plant  6.10 Maintenance of Plant  6.11 Records Management	
7.	MONITORING, EVALUATION AND REVIEW	10
8.	DEFINITIONS AND ABBREVIATIONS	11
9.	ASSOCIATED DOCUMENTS	13
10	DEEEDENCES	12

# **REVISION RECORD**

Date	Version	Revision description
5/12/2013	2	Health and Safety Services review and consultation in line with new Work Health and Safety Act and Regulations



## 1. TITLE

Plant Management Procedure

# 2. PURPOSE

The purpose of this procedure is to establish safe systems for the management of plant to assist officers, site managers and delegated workers who have management or control of plant at the workplace to systematically identify and manage all risks arising from the use of plant to ensure the health and safety of all persons at a Department for Education and Child Development (DECD) workplace.

This procedure supports the Work Health Safety and Injury Management Policy.

## SCOPE

These procedures apply to all officers, workers, students, young people and other persons who engage in activities where plant is used and maintained at a DECD workplace.

### 4. OBJECTIVES

The objectives of this procedure are to ensure DECD, its officers and workers comply with all relevant legislation, Australian Standards, approved Codes of Practice and DECD specifications relating to the safe management of plant by ensuring:

- All hazards and risks to health and safety as a result of using plant are managed in accordance with the <u>DECD Risk Management Policy</u>, <u>Risk Management Framework</u> and the hierarchy of controls.
- Consultation occurs with workers and other persons who use plant and the health and safety representative (HSR) as part of the risk management process.
- Consultation, cooperation and coordination occurs with other duty holders who DECD shares a
  duty regarding the safe use and maintenance of plant.
- Safe systems of work are applied in association with the design, manufacture, importation, supply, purchase, installation, commissioning, use, modification, maintenance, storage, transfer and disposal of plant.
- Information, instruction and training are provided by a competent person to all persons exposed to hazards as a result of using plant.

## 5. DUTIES AND RESPONSIBILITIES

5.1 Work Health and Safety Duties

Refer to Section 6.1.1 of the Work Health Safety and Injury Management Policy.

5.2 Roles and Responsibilities

# Party / Parties Delegated

Workers

### Roles and responsibilities

Delegated workers may be deemed to have limited management or control of plant as specified in their job description. Therefore, delegated workers have a duty to ensure, so far as is reasonably practicable, that fixtures, fittings and plant are without risks to the health and safety of any person. Delegated workers are required to:

- Manage the health and safety risks associated with plant in accordance with this procedure where relevant.
- Prevent unauthorised alternations to or interference with plant.
- Use plant only for the purpose for which it is designed unless the proposed use does not increase the risk to health or safety.
- Report all plant incidents and injuries on the Incident and Response Management System (IRMS) within 24 hours of the occurrence.



Health and Safety Committee (HS Committee)

- Comply with all requirements of this procedure where relevant. In accordance with s.77 of the WHS Act, the functions of a health and safety committee are:
- To facilitate co-operation between DECD and workers in instigating, developing and carrying out measures designed to ensure the workers' health and safety at work.
- To assist in developing standards, rules and procedures relating to health and safety to be followed or complied with at the workplace.
- Any other functions prescribed by the regulations or agreed between DECD and the committee.

Health and Safety Representatives (HSRs) In accordance with s.68 of the WHS Act, Health and Safety Representatives have powers and functions. They are to:

- Represent the workers in the work group in matters relating to work health and safety.
- Monitor the measures taken by DECD in compliance with the WHS Act in relation to workers in the work group.
- Investigate complaints from members of the work group relating to work health and safety.
- Inquire into anything that appears to be a risk to the health or safety of workers in the work group, arising from the conduct of DECD.

Officers

Ensure reasonable steps are taken to comply with due diligence requirements in relation to plant management.

Site Manager

Site managers have management or control of plant in accordance with Division 7 – General duties of a person conducting a business or undertaking involving the management or control of plant under WHS Regulations 2012. This means they have a duty to ensure, so far as is reasonably practicable, that fixtures, fittings and plant are without risks to the health and safety of any person. Site managers are required to:

- Manage the health and safety risks associated with plant in accordance with this procedure.
- Prevent unauthorised alternations to or interference with plant.
- Use plant only for the purpose for which it is designed unless the proposed use does not increase the risk to health or safety.
- Report all plant incidents and injuries on IRMS within 24 hours of the occurrence.
- Comply with all requirements of this procedure.

Workers

Must ensure they do not endanger themselves or other persons by the misuse of plant and that they:

- Are adequately trained and authorised to operate the plant prior to use.
- Do not use the plant for a task that it has not been designed for.
- Assist in the risk assessment process when required.
- Report all issues, problems and hazards to the site manager immediately.
- Use safe systems of work including manufacturer's instructions and SOPs.

# 6. PROCEDURE DETAIL

- 6.1 Consultation, Representation and Participation
- 6.1.1 Officers, site managers and delegated workers who have management and control responsibilities regarding the purchase, installation, commissioning, use, modification, maintenance, storage, transfer and disposal of plant must ensure consultation occurs with workers and other persons who are required to use the plant, the health and safety representative (HSR) and Health and Safety Committee (HS Committee). In the absence of a



HSR or HS Committee, workers must be consulted through other mechanisms such as team meetings, one-on-one briefings, information sessions and/or email notifications.

- 6.2 Purchase or Acquisition of New and / or Second Hand Plant
- 6.2.1 Officers, site managers and delegated workers responsible for initiating or approving the purchase or acquisition of new or used plant must ensure:
  - (a) The Plant Pre-Purchase Checklist (refer to Appendix 1) is completed prior to the plant being purchased. The Plant Pre-Purchase Checklist will assist in the identification of reasonably foreseeable hazards and determine whether a risk assessment and implementation of control measures are required before approval of the purchase is given. Consideration must be given to safe system of work associated with the plant, the layout and condition of the work environment where the plant is to be used, the capability, skill and experience of the people who will be using the plant and any reasonably foreseeable hazards. Further information can be obtained from the DECD Guidelines for the Safe Use of Machinery.
  - (b) The item of plant under consideration:
    - i. Has operator control devices that are designed to be 'fail safe' eg. E stops.
    - ii. Is designed so that interruption, re-establishment or fluctuation of an energy source such as electricity, pneumatic, hydraulic or other sources does not lead to a dangerous situation.
    - iii. Does not start unexpectedly and it must not be prevented from stopping if the command to stop has already been given.
    - v. Does not have moving parts or pieces held by the plant that can unintentionally fall or be ejected.
    - vi. Has parts that can be stopped unimpeded, either automatically or manually and that any protective devices must remain fully effective and be regularly inspected for correct operation.
  - (c) The designer, manufacturer, importer or supplier must provide operating or user manuals and/or instructions as well as documented construction / installation / erection / commissioning plans in English, when required.
  - (d) Approval complies with government and DECD procurement guidelines.
- 6.3 Construction, Erection, Installation and Commissioning of Plant
- 6.3.1 Officers, site managers and delegated workers responsible for the construction, erection, installation and / or commissioning of plant must ensure:
  - (a) Any item of plant contained in <u>Schedule 5 of the WHS Regulations</u> (refer to Appendix 7) is registered with WHS Regulator, before it is commissioned into use. This may include powered mobile plant, plant that lifts or suspend loads, industrial robots, lasers, pressure equipment and scaffolds.
  - (b) Documented designer, manufacturer, importer or supplier provided construction / installation / erection / commissioning plans are in place prior to the commencement of any work.
  - (c) Where practicable, all reasonably foreseeable hazards are identified and assessed and control measures are implemented using the hierarchy of controls and the <u>Plant Risk Assessment Form</u> (refer to Appendix 2) before the plant is commissioned into use. This information is to be recorded on the <u>Site Plant Register</u> (refer to Appendix 6).
  - (d) Installation is conducted by a competent person and / or approved / licensed contractor consistent with a Safe Work Method Statement and that the WHS Regulations and any applicable Australian Standards are complied with at all times.



- (e) The location must be suitable for the type of plant with sufficient clear space for the plant to be stored, operated, tested, inspected, maintained and safely repaired.
- (f) A documented inspection, testing and maintenance schedule is developed in accordance with DECD records management processes.
- 6.4 Alterations to or Interference with existing Plant
- 6.4.1 Officers, site managers and delegated workers responsible for initiating or approving any alteration or modification to existing plant or a change in the way plant is used, in a system of work associated with plant or the location of plant must ensure a risk assessment is conducted which determines potential impacts on existing work operations, the area in which the plant will operate and current Safety Operating Procedures (SOPs) in consultation with affected workers, the HSR, the HS Committee or other agreed mechanisms.
- 6.4.2 Alterations or modifications, including the removal of guarding or interference with emergency stop controls or warning devices, must not be undertaken without the officer's, site manager's and delegated worker's approval.
- 6.5 Supply of Plant to Other Persons
- 6.5.1 Officers, site managers and delegated workers who supply plant to other persons through sale, loan, trade-in, transfer or donation must ensure, so far as is reasonably practicable:
  - (a) All hazards and faults are identified using the <u>Hazard Checklist for the Disposal of Plant</u> (refer to Appendix 3).
  - (b) That the person to whom the plant is supplied is given written notice of the condition of the plant, any faults identified and, if appropriate that the plant should not be used until the faults are rectified. This applies in all circumstances including internal transfers within DECD.
  - (c) The following checklists, forms and reports are supplied with the plant at the time of sale, trade-in, transfer or donation:
    - i. <u>Hazard Checklist for the Disposal of Plant</u>. A copy must be retained for site records.
    - ii. Condition of Acceptance for Plant Form. A copy must be retained for site records.
    - iii. Any safety records containing inspection reports relating to any modification made to the plant.
    - iv. Maintenance and repair records.
    - v. Any relevant information prepared by the designer, manufacturer, importer or supplier of the plant eg. operator / user manuals and instructions, construction / installation / erection / commissioning plans.
    - vi. Any records kept by previous owners (if the plant is second hand).
- 6.6 Hire, Lease or Loan of Plant
- 6.6.1 Officers, site managers and delegated workers who hires, leases or is given plant from an external supplier must ensure the following documentation is provided with the plant:
  - (a) A current risk assessment eg. within five (5) years. If one is out of date or does not exist as hazards have not been identified, use the <u>Plant Pre-Purchase Checklist</u> (refer to Appendix 1) to determine whether a risk assessment and implementation of control measures is required prior to delivery.



- (b) Safety records containing inspection reports, maintenance, repair and any modification made to the plant.
- (c) Any relevant information prepared by the designer, manufacturer, importer or supplier of the plant eg. operator / user manuals and instructions, construction / installation / erection / commissioning plans.
- (d) Any records kept by previous owners.
- 6.7 Decommissioning, Dismantling and Disposing of Plant
- 6.7.1 Plant can be identified as suitable for disposal because:
  - (a) It is no longer required due to change in workplace, procedure, function or activity.
  - (b) It no longer complies with WHS legislation, Australian Standards or DECD specifications.
  - (c) It is beyond economical repair and is suitable for scrap or spare parts only.
- 6.7.2 Plant can be disposed of in the following ways:
  - (a) Sold to an external organisation or individual for further use.
  - (b) Sold for salvage for scrap or spare parts.
  - (c) Loaned.
  - (d) Traded in.
  - (d) Transferred to another DECD site or government agency.
  - (e) Donated (requires Chief Executive approval. (Refer to the DECD Disposal Policy).
  - (f) Dumped because there is no material value for the plant or the cost of sale is greater than the return on sale.
- 6.7.3 Officers, site managers and delegated workers must ensure when plant is decommissioned, dismantled or disposed of that:
  - (a) The process is managed by a competent person and complies within the requirements of <u>Regulation 204 of the WHS Regulations</u> to ensure any hazards inherent in the process of decommissioning, dismantling or disposal have been identified and control measures implemented.
  - (b) If the plant contains materials which are likely to present a risk to the health and safety of individuals or to the environment (eg asbestos or a hazardous chemical), the material is disposed of in accordance with relevant regulatory requirements.
  - (c) Decommissioning or dismantling occurs in accordance with manufacturer's instructions by a competent person.
  - (d) All energies are released and the plant is rendered inoperable by a competent person before it is dumped.
  - (e) A delegate with appropriate disposal authority approves the transaction. Advice can be obtained from the Procurement Unit to ensure disposal meets government and DECD disposal requirements.
  - (f) The <u>Hazard Checklist for the Disposal of Plant</u> (refer to Appendix 3) is completed and a copy retained for site records.
  - (g) The purchaser / receiver of the plant returns a signed copy of the <u>Condition of Acceptance for Plant form and a copy is retained for site records.</u>
  - (h) If the plant is damaged beyond repair and assessed as unsafe for use, it must be marked as such by a competent person and dumped or used only for scrap or spare parts.



- (i) It is removed from the <u>Site Plant Register</u>. The <u>Site Plant Register</u> must be updated to indicate that DECD disposal requirements have been applied and copies of forms are retained.
- 6.7.4 The process outlined in 6.5 Supply of Plant to Other Persons must be followed when disposing of plant through the sale, trade-in, transfer or donation to other persons.
- 6.8 Hazard Management Process
- 6.8.1 Risk Identification
  - (a) The <u>DECD Guidelines for the Safe Use of Machinery</u> and the <u>Managing the Risks of Plant in the Workplace Code of Practice</u> provide detailed information on the identification of hazards, the risk assessment process and control measures to be taken to eliminate or reduce the risk of serious injury when using plant that has moving parts.

# 6.8.2 Assessing Risks

- (a) Officers, site managers and delegated workers must ensure:
- (b) Where a hazard is identified, a risk assessment is undertaken using the <u>Plant Risk Assessment Form</u> (refer to Appendix 2) in consultation with affected workers and other persons and the HSR using one or more of the following methods:
  - i. A visual inspection of the plant and its associated environment.
  - ii. Auditing.
  - iii. Testing.
  - iv. A technical or scientific evaluation.
  - v. An analysis of injury, incident and near-miss data.
  - vi. Discussions with designers, manufacturers, suppliers, importers, workers or any other relevant parties.
  - vii. Consideration of other factors including but not limited to, the condition, suitability, proposed location and potential abnormal situations in which the plant will be operated.
- (c) The severity of any identified risks to health and safety are assessed and appropriate control measures are implemented using the hierarchy of controls, taking into consideration the exposure, likelihood and consequences of the risks. These actions must be documented in the Site Corrective Action Log or the Corrective Action Plan found at the end of the Plant Risk Assessment Form (refer to Appendix 2).

### 6.8.3 Risk Controls

- (a) Hazard management control systems are designed and constructed so they are safe and reliable, and do not introduce a further risk.
- (e) All safety features and warning devices must be inspected, tested and maintained regularly and records kept.
- (f) All elements of plant management are monitored on an annual basis to ensure compliance with this procedure. This includes the effectiveness of any control measures which have been implemented in accordance with the hierarchy of controls such as awareness of workers, effective safeguarding changes to the workplace environment, conformance to SOPs, records management, impacts of new legislation, appropriate Australian Standards or DECD specifications etc.

## 6.8.4 Monitoring and Review

(a) Risk assessments, control measures (including SOPs) are reviewed within a 5 years period in consultation with affected workers who use the plant, the HSR and the HS Committee or earlier if there has been:



- i. An alteration or modification to existing plant.
- ii. A change in the way plant is used or in a system of work or activity associated with plant or the location of plant.
- 6.9 Safe Plant
- 6.9.1 The <u>DECD Guidelines for the Safe Use of Machinery</u> provide detailed information on the guarding of plant or the parts of plant. The failure to provide, attach or replace guarding on moving parts, or follow safe locking-out and tagging procedures are a serious risk to health and safety.
- 6.9.2 Officers, site managers and delegated workers must ensure:
  - (a) The following activities are only undertaken by a competent person:
    - i. Hazard identification and risk assessments.
    - ii. Inspection, testing, maintenance and repair activities.
    - iii. Assessment of plant damage.
    - iv. Assessment of plant that has been altered or modified.
    - v. Operational checks.
  - (b) Plant is routinely inspected using the Machine / Plant Checklist to ensure hazard, safety features and warning devices on plant meet legislative requirements, are adequately maintained and tested on a regular basis and records are maintained of those inspections.
  - (c) The plant is operated in accordance with the manufacturer's instructions.
  - (d) SOPs are placed in close proximity to the plant. These must be checked annually to ensure compliance with safe work practices.
  - (e) Workers and other persons are trained and, if required, hold the appropriate licence or permit in accordance with relevant legislation (eg driver's licence, fork lift licence, permit to work etc), before approval is given to operate any plant.
  - (f) When plant is not in use for 3 months or more, an OUT OF SERVICE 'tag' must be attached and locked out where possible to ensure it does not create a hazard in the workplace.
- 6.9.3 Workers and other persons must ensure they do not endanger themselves or other persons by the misuse of plant and they:
  - (a) Are adequately trained and authorised to operate the plant prior to use.
  - (b) Do not use the plant for a task that it has not been designed for.
  - (c) Assist in the risk assessment process when required.
  - (d) Report all issues, problems and hazards to the site manager immediately.
  - (e) Use safe systems of work including manufacturer's instructions and SOPs.
  - (f) Use Personal Protective Equipment (PPE) when required as specified on the SOP.

#### 6.10 Maintenance of Plant

- 6.10.1 Officers, site managers and delegated workers must ensure plant is inspected, tested, maintained and repaired in accordance with relevant legislative requirements, manufacturer instructions, documented maintenance schedules and daily plant safety checklists. The following requirements must also be met:
  - (a) A Site Maintenance Schedule (refer to Appendix 5) must be maintained for all plant.
  - (b) Any repairs and/or maintenance must be carried out by a competent person.



- (c) The design of plant that has been altered or modified must comply with the WHS Regulations, appropriate Australian Standards and DECD specifications.
- (d) If access is required to plant for the purpose of inspection, testing, maintenance or repair, it must be isolated and workers and other persons are properly advised. An OUT OF SERVICE 'tag' or DANGER 'tag' must be fixed to the isolating control. The reason for placing the tag on the plant must be clearly written on the tag. If the start-up, release or stored energy of the plant is likely to endanger or injure personnel, the competent person must apply an appropriate lockout system to the isolating control. This should be done in combination with the use of tags. The date must be marked on the <a href="Site Maintenance Schedule">Site Maintenance Schedule</a> (refer to Appendix 5).
- (e) Once the reason for the 'tag' no longer exists, the person who implemented the lockout system is the only person permitted to remove it. However, in an emergency or if the person is ill or on leave, the lockout system or tag can only be removed by a site manager. Refer to the DECD Guidelines for Safe Use of Machinery.
- (f) Testing and tagging of electrical plant is undertaken in accordance with the <u>Electrical</u> Testing Procedure.
- (g) PPE used by multiple operators of plant are inspected and cleaned as appropriate after each use in accordance with manufacturer / suppliers instructions.
- 6.11 Records Management
- 6.11.1 In accordance with Regulation 237 of the WHS Regulations, records must be kept relating to plant that requires registration of plant and plant design with the WHS Regulator (refer to Appendix 7). However, DECD requires records to be kept for all plant that is used in a DECD workplace.
- 6.11.2 Officers, site managers and delegated workers must ensure the following records relating to the safe management of plant is retained by the site. Records include, but are not limited to:
  - (a) Pre-purchase checklists, plant disposal checklists and forms and risk assessments, both those provided by the manufacturer and / or supplier and those undertaken by DECD personnel.
  - (b) Compliance statements and / or test certificates.
  - (c) Manufacturer's specifications and user manuals.
  - (d) SOPs.
  - (e) The commissioning, modifications, alteration, decommissioning, dismantling or disposal of plant.
  - (f) Maintenance, inspection, testing, health surveillance and monitoring.
  - (g) Information, instruction and training provided to workers and other persons.
  - (h) Competencies of operators.
- 6.11.3 Records must be kept for the period the plant is used or the site manager or delegate worker relinquishes control of the plant.
- 6.11.4 Copies of records, with the exception of training records, are transferred to the new owner in the event that any plant is sold, traded in, transferred or donated. This also applies to internal transfers within DECD.

# 7. MONITORING, EVALUATION AND REVIEW

7.1 This procedure will be subject to review every 3 years by Health and Safety Services, in consultation with the DECD Work Health and Safety Committee and State WHS Consultative Committee or earlier if there has been a change in any legislation, Australian Standards or DECD specifications.



- 7.2 Site managers must review and evaluate the effectiveness of their plant management processes every 12 months. This requirement will be monitored by Health and Safety Services through the WHS Business Manager System. Compliance outcomes will be reported to the DECD Work Health and Safety Committee and State WHS Consultative Committee as part of the WHS&IM Management Review process.
- 7.3 Site managers must ensure that workers and others are consulted and provided with any necessary information, instruction, training and supervision to ensure plant is managed safely and the control measures are effective.
- 7.4 The effectiveness of this procedure will be evaluated and reviewed through regular internal audit processes. Compliance outcomes will be reported to the DECD Work Health and Safety Committee and State WHS Consultative Committee as part of the WHS&IM Management Review process.

# 8. DEFINITIONS AND ABBREVIATIONS

Term	Meaning
Competent Person	<ul> <li>A person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.</li> <li>A competent person has a more specific meaning in the following circumstances:</li> <li>For design verification, the person must have the skills, qualifications, competence and experience to design the plant or verify the design.</li> <li>For inspection of plant for registration purposes the person must have: <ul> <li>educational or vocational qualifications in an engineering discipline relevant to the plant being inspected, or</li> <li>knowledge of the technical standards relevant to the plant being inspected.</li> </ul> </li> <li>For inspection of mobile cranes, tower cranes and amusement devices the person must: <ul> <li>have the skills, qualifications, competence and experience to inspect the plant, and be registered under a law that provides for the registration of professional engineers (in jurisdictions where such a law exists), or</li> <li>be determined by the WHS regulator to be a competent person.</li> </ul> </li> <li>This definition is in accordance with "Managing the Risks of Plant in the Workplace</li> </ul>
DECD	Code of Practice"  The Department for Education and Child Development
DECD specifications	Include guidelines, fact sheets, standards or any other guidance material developed and approved by DECD and available on the DECD website.
Delegated worker	Are DECD workers who are not officers or site managers but have the responsibility to manage or oversee specified activities in their position descriptions that involve limited management and control of plant, fixtures and substances eg. Project managers, project officers, asset support staff, design and technical studies coordinators, laboratory technicians, grounds and maintenance persons etc.
Fail Safe	A state or condition where, if any component or function of the plant fails, a system exists to prevent any increase in the risks. For example, if the primary hoist brake fails on a crane lifting a person in a workbox, the secondary hoist brake will prevent uncontrolled dropping of the workbox. However, once the secondary brake is engaged, a lower level of safety has been reached. The situation must be made safe and the fault rectified so that the fail safe capability is re-established.  "Managing the Risks of Plant in the Workplace Code of Practice"
Health and Safety Committee (HS Committee)	Means an established committee for the purposes of facilitating consultation and cooperation between a PCBU and workers in accordance with Division 4 of the Work Health and Safety Act 2012.
Health and Safety Representative (HSR)	Means an elected Health and Safety Representative in accordance with Division 3 of the Work Health and Safety Act 2012.



Hierarchy of Controls	A formal process of applying control measures to achieve the most effective control of risks. The controls within the hierarchy must be applied in order, and as far as is reasonably practicable at each level of the hierarchy.  The classifications of controls within the hierarchy are:
	Elimination
	Substitution
	• Isolation
	Engineering Controls
	Administrative Controls
IDMO	Personal Protective Equipment
IRMS	Incident Response Management System
Must	Indicates that a process is a legislative, Australian Standard or DECD specification requirement.
Officer	In accordance with s.4 of the Work Health and Safety Act 2012 and officer means—  (a) an officer within the meaning of section 9 of the Corporations Act 2001 of the Commonwealth other than a partner in a partnership; or  (b) an officer of the Crown within the meaning of s.247; or  (c) an officer of a public authority within the meaning of s.252,
PCBU	Person conducting a business or undertaking and is defined in s.5 of the Work Health and Safety Act 2012.
PPE	Personal Protective Equipment
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 screw driver, 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.
	This definition is in accordance with "Managing the Risks of Plant in the Workplace Code of Practice"
Safe Work Method Statement	Is predominately used in construction to describe a document that gives specific instructions on how to safely perform a work related tasks or operate a piece of plant, equipment or hazardous chemical. It identifies all foreseeable hazards that are likely to be encountered when undertaking a task or process and provided detailed guidance on how to carry out the tasks safely. It is typically submitted by a contractor for client
	approval prior to the commencement of a project.
SEG	approval prior to the commencement of a project.  Senior Executive Group.
SEG Site manager	<u> </u>
	Senior Executive Group.  Any person who has the responsibility, management or control of a DECD workplace or work unit. This includes but is not limited to Executive Directors, Regional Directors, Directors, Principals, Pre-school Directors, Out of School Care Coordinators, Managers
Site manager	Senior Executive Group.  Any person who has the responsibility, management or control of a DECD workplace or work unit. This includes but is not limited to Executive Directors, Regional Directors, Directors, Principals, Pre-school Directors, Out of School Care Coordinators, Managers and Supervisors.



Worker	s.7 of the Work Health and Safety Act 2012 states:
	A person is a worker if the person carries out work in any capacity for a person
	conducting a business or undertaking, including work as—
	(a) an employee; or
	(b) a contractor or subcontractor; or
	(c) an employee of a contractor or subcontractor; or
	(d) an employee of a labour hire company who has been assigned to work in the
	person's business or undertaking; or
	(e) an outworker; or
	(f) an apprentice or trainee; or
	(g) a student gaining work experience; or
	(h) a volunteer; or
	(i) a person of a prescribed class.

## 9. ASSOCIATED DOCUMENTS

Appendix 1 - Plant Pre Purchase Checklist

Appendix 2 - Plant Risk Assessment Form

Appendix 3 - Hazard Checklist for the Disposal of Plant Form

Appendix 4 - Condition of Acceptance for Plant Form

Appendix 5 - Maintenance Schedule

Appendix 6 - Site Plant Register Template

Appendix 7 - WHS Regulations 2012 Schedule 5 - Registration of Plant and Plant Design

Appendix 8 - Technical Standards for Plant

Management of Risks of Plant in the Workplace Code of Practice

Guidelines for the Safe Use of Plant (DECD specifications)

## 10. REFERENCES

Work Health and Safety Act 2012

Work Health and Safety Regulations 2012

Work Health Safety and Injury Management Policy

**DECD Risk Management Policy** 

**DECD Disposal Policy** 

Risk Management Framework

Hazard Management Procedure

**Electrical Testing Procedure** 

Hazardous Chemical Procedure

Asbestos Management Procedure

Purchasing and Supply Procedure

Phil O'Loughlin EXECUTIVE DIRECTOR, HUMAN RESOURCES AND WORKFORCE DEVELOPMENT

Date: 5 December 2013





# **Appendix 1 Plant Pre Purchase Checklist**

This form must be used by sites when purchasing or acquiring plant to ensure it complies with WHS requirements and DECD specifications. If hazards are identified, a risk assessment is required. Refer to the Plant Management Procedure for more details

De	scription of Plant:			
Ма	Manufacturer Model			
Pro	posed Supplier			
Loc	cation/site			
Pe	son requesting purchase			
1.	Have all legislative requirements including AS/NZS Standards that apply to this item been identified? If Yes list all applicable legislation, standards and codes of practice.	☐ Yes ☐ No		
2.	Does this item of plant require registration? (refer to Schedule 5, Part 2 - WHS Regulations 2012)	☐ Yes ☐ No		
3.	Specify any special requirements for this item. (attach separately if required).			
4.	Are there licensing / registration requirements for the item and are permits to operate and / or operator certification required?			
	Who is responsible for obtaining these licenses or permits?			
5.	Has the supplier been asked to provide a risk assessment for this item? If not, what steps will be taken to remedy this oversight?	☐ Yes ☐ No		
6.	Does the risk assessment fit the intended use of this item?	☐ Yes ☐ No		
7.	Is there any emergency stop device, guarding, ergonomic requirements, noise or manual handling issues that need to be considered, assessed and addressed prior to purchase?	☐ Yes ☐ No		
	If yes, provide details.			
8.	Are chemicals required as part of the operational requirements of the item? If yes, list all chemicals (eg. petrol, solvents, adhesives etc).	☐ Yes ☐ No		
	If yes, the SDS must be obtained and a risk assessment undertaken to determine the status of the chemical eg. dangerous / hazardous.			
9.	Has the worksite layout, access and storage requirements been considered?	☐ Yes ☐ No		
10.	Has the supplier been requested in writing to provide instruction / operator / user manuals?	☐ Yes ☐ No		
	If not, what steps will be taken to remedy this oversight?			
11.	What training or competency standard is required for workers or others to safely use this item?			
	Will the supplier provide this training to workers or others?	☐ Yes ☐ No		

		able to provide training, who will to workers or others?		
12.		ire a formal construction, erection, commission process?	☐ Yes ☐ No	
	What parties will be	involved with this process?		
13.	Will the item require calibration or testing	e regular inspection, maintenance, g?	☐ Yes ☐ No	
	Will the supplier procalibration or testing	ovide the inspection, maintenance, g?	☐ Yes ☐ No	
	If the supplier is una will provide this serv	able to provide this service, who vice for this item?		
14.	Are spare parts rea	dily available?	☐ Yes ☐ No	
		of the supplier. If not, provide are parts can be obtained.		
15.	If the item breaks do emergency breakdo	own, will the supplier provide an own service?	☐ Yes ☐ No	
	agreed to. If not, al	nat arrangements have been ternative arrangements need to rocurement process.		
16.	How long is the war Document the warra	ranty period for this item? anty requirements.		
17.	17. Does this item require specialised emergency procedures?		☐ Yes ☐ No	
	If yes, who will be responsible for developing and implementing these?			
18.	18. Has consultation occurred with workers and others who are required to use the item?		☐ Yes ☐ No	
	If yes, detail how consultation has occurred. If not, what steps will be taken to ensure consultation has occurred.			
		Name	Signature	Date
Site	Manager			
Users of the plant				
HSR				
WH	IS Committee			
Authorising Delegate				
Oth	er			
		ı	ı	1



# Appendix 3 Hazard Checklist for the Disposal of Plant

This checklist is to be used by sites when disposing of plant by sale, trade-in, transfer, donation, decommissioning, dismantling, salvage or dumping. A copy must be provided to the purchaser / receiver of the plant and a copy retained by the site. Refer to the Plant Management Procedure for more details.

Location/site					
Description of Plant					
Da	te of Acquisition				
Ма	nufacturer				Model
Site	e Manager Name				Date
Pe	rson completing the hazard checklist				Date
	Disposal Meth	nod			
Sal	e □ Trade In □ Transfer □ Donation □ D	ecommi	ssion/[	Dismant	le/Salvage ☐ Dump ☐
	te: The disposal method will determine whether the haza points 1 – 5 may not be present if plant is to be dismantle				
		Yes	No	N/A	Comments
1.	Guarding - Is guarding adequate for the type of plant and the work it is used for?				
Electrical - Can anyone be injured from electric shock due to damaged electrical leads/cables or damaged switches or emergency stop devices?					
3. Explosion - Can anyone be injured by explosion of gases, vapours, liquids, dusts or other substances triggered by the operation of the plant or materials handled by the plant?					
4.	Slips, Trips and Falls - Can anyone using the plant slip, trip or fall due to uneven or slippery work surfaces or lack of guardrails or other suitable edge protection?				
5.	High Temperature - Can anyone come into contact with objects at high temperatures or be injured by fire when using this plant?				
6.	Crushing - Has the risk of crushing from parts falling off, or uncontrolled or unexpected movement of the plant been addressed?				
7.	Striking, Cutting, Stubbing and Puncturing - Can anyone be struck, cut, stabbed or punctured by this plant?				
8.	Environmental Hazards - Are hazardous (or other) wastes likely to be released by this plant?				
9.	Other Hazards unique to the disposal method?				

If the site manager determines that plant is to be disposed of, they must ensure that a delegate with appropriate disposal authority approves the transaction and that the correct disposal method has been selected. Advice and direction shall be sought from the Procurement Unit to ensure the intended disposal method meets Government requirements.

The site manager must ensure this form and a Conditions of Acceptance Form has been completed for items of plant disposed by sale, trade-in, transfer, donation, decommissioning, dismantling, salvage or dumping and retained on site.

Site name			
Disposed to	Location	Date of disposal	
Site Manager name	Site Manager signature	Barcode number	



# Appendix 4 Acceptance of Condition Form

This Form is to be used by sites when disposing of plant by sale, trade-in, transfer, donation or salvage. It is to be provided to the purchaser / receiver of the plant and a copy must be retained by the site. Refer to the Plant Management Procedure for more details.

### This plant is supplied subject to the acceptance of the following conditions:

- 1. The plant may not comply with the Work Health and Safety Act 2012 or Work Health and Safety Regulations 2012, relevant Australian / New Zealand Standards or other requirements.
- 2. Responsibility for this plant in regard to compliance, operation or repair becomes the responsibility of the purchaser / receiver of the plant.
  - There is no warranty associated with the item offered for sale, trade-in, transfer, donation or salvage.
  - The site and State of South Australia will not admit any claims on the grounds of defective plant, incorrect description or error in quantity.
  - The offer of the plant for sale, trade-in, transfer, donation or salvage is not an indication of its 'fitness for purpose'.
  - The site has provided the purchaser/receiver of the plant with a copy of a *Hazard Checklist for Plant Disposal*, which identifies hazards that the site is aware of relating to this plant.
- 3. The purchaser / receiver of the plant shall have no claim on DECD for defects, deficiencies or any other liability after the items are accepted by the person/s receiving the plant which is by virtue of payment of the amount due.
- 4. If the plant is intended for use the hazards identified on the *Hazard Checklist for Plant Disposal* must be rectified prior to use.
- 5. If plant is intended for salvage the plant must not be placed in service in the form in which it is supplied.
- 6. Any payment is made to DECD or the site within 14 days.
- 7. The plant shall be at the risk of the purchaser / receiver from the due date of the agreed purchase price.

The site must complete the details below and forward to the purchaser / receiver of the plant for their completion.

Site Name		
Address		Postcode
Site Manager's Name	Signature	Date
Plant Item	Manufacturer	
Model	Serial Number	
Purchase Price	Payment Due	
address.	nt must complete the details below and return lant accepts the conditions for the purcha above.	
Purchaser / Receiver of Plant Name		
Address		Postcode
Purchaser / Receiver of Plant Signature		Date
Payment Received		By Cash / Cheque / EFT
Reference No.		



# **Appendix 5 Site Maintenance Schedule**

The Maintenance Schedule will be reviewed each term/quarter to ensure that maintenance occurs as appropriate. General routine servicing or visual checks will be conducted as per the following program unless the plant becomes faulty and requires attention earlier.

# FOR INCLUSION ON SITE MAINTENANCE SCHEDULE

All electrically, fuel or fluid powered, fixed, corded and portable plant, machinery and equipment as listed below are to be included in the Site Maintenance Schedule.

Technical Studies:	Art:	Performing Arts:	Office:	Grounds:
Metal lathe	Pottery wheel	Stage lighting	Photocopier	Power packs
Drill press	Pottery kiln	Stage sets	Paper shredder	Lawn mower
Buff .	Clay auger	· ·	Facsimile	Ride on mower
Power hacksaw				Tractor
Milling machine				Chain saw / Brush cutter
Planer/Thicknesser				Wood chipper
Wood lathe				• •
Cold saw	General:	Agricultural Studies:	Canteen/Kitchens:	Other areas to consider:
Band saw	Heaters	Augers	Pie warmer	Handyperson's equipment;
Welders	Computers	Tractor	Meat slicer	Printeries; Physical Education;
Bench saw	Air Conditioners reverse	Brush cutter	Insect eliminator	Computing Studies;
Extraction units	cycle	Trailer	Exhaust fans	Classrooms; Resource
Bench folders	- filters	Harvester/Header	Cold room & fridges etc.	Centre/Library; Staffroom; CPC;
Metal guillotines	evaporative	Baler	Ovens/stoves	OHSC etc.
Metal benders	- outside	Boom sprays	Urns	
Metal rolls	- inside/vents	Misting machines	Dishwashers	
Hydraulic press	Lighting	Hammer mills	Industrial microwaves	
	Vacuum cleaners	Chaff cutters	Kettles	
	Rope burner	Chain saws		
	Power drills	Rotary hoe		
	High pressure washer	Pneumatic secateurs	Laundry	
	Power inverters		Washing machine	
	Battery chargers		Dryer	
	, 0		•	



Issue Number:	
Issue Date: /	

YEAR:

# Appendix 5

# Site Maintenance Schedule for Plant

Plant	Asset No	Location	Responsible Officer	Service Provider	Out of Service Tag Date			Sign Off ite)	
						Term/ Qtr 1	Term/ Qtr 2	Term/ Qtr 3	Term/ Qtr 4
									i

Highlight the term/quarter column when maintenance is due. Sign off dates are required in the term/qtr column when maintenance has been undertaken.



#### Appendix 6 Site Plant Register

				Manufacturar																
Description Plant	Make #	Model #	Serial #	Information	Asset #	Location	Pre-Purchase Checklist	Plant Restriction	Date of Risk Assesment	Risk Assessment	Review Date	Risk Rating	Controls	Residual Risk Rating	Date of Consultation	Maint Record/Schedule	SOP	Disposal Checklist	Comments	Date of Disposal
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Appendix 6 Site Plant Register Plant Management Procedure



# Appendix 7 WHS Regulations 2012 Schedule 5 – Registration of Plant and Plant Designs

Regulations 243 and 246

# Part 1—Plant requiring registration of design

# 1—Items of plant requiring registration of design

- 1.1 Pressure equipment, other than pressure piping, and categorised as hazard level A, B, C or D according to the criteria in Section 2.1 of AS 4343: 2005 (*Pressure equipment—hazard levels*).
- 1.2 Gas cylinders covered by Section 1.1 of AS 2030.1: 2009 (Gas cylinders—General Requirements).
- 1.3 Tower cranes including self-erecting tower cranes.
- 1.4 Lifts, including escalators and moving walkways.
- 1.5 Building maintenance units.
- 1.6 Hoists with a platform movement exceeding 2.4 metres, designed to lift people.
- 1.7 Work boxes designed to be suspended from cranes.
- 1.8 Amusement devices covered by Section 2.1 of AS 3533.1: 2009 (Amusement rides and devices—Design and construction), except devices specified in clause 2(2).
- 1.8A Passenger ropeways.
- 1.9 Concrete placement units with delivery booms.
- 1.10 Prefabricated scaffolding and prefabricated formwork.
- 1.11 Boom-type elevating work platforms.
- 1.12 Gantry cranes with a safe working load greater than 5 tonnes or bridge cranes with a safe working load of greater than 10 tonnes, and any gantry crane or bridge crane which is designed to handle molten metal or Schedule 10 hazardous chemicals.
- 1.13 Vehicle hoists.
- 1.14 Mast climbing work platforms.
- 1.15 Mobile cranes with a rated capacity of greater than 10 tonnes.

## 2—Exceptions

- (1) The items of plant listed in clause 1 do not include—
- (a) a heritage boiler; or
- (b) a crane or hoist that is manually powered; or
- (c) an elevating work platform that is a scissor lift or a vertically moving platform; or
- (d) a tow truck.
- (2) The following class 1 devices are excluded from clause 1.8:
- (a) class 1 devices (as so classified under AS 3533.1: 2009, Section 2.1);
- (b) playground devices;
- (c) water slides where water facilitates patrons to slide easily, predominantly under gravity, along a static structure;
- (d) wave generators where patrons do not come into contact with the parts of machinery used for generating water waves:
- (e) inflatable devices, other than inflatable devices (continuously blown) with a platform height of 3 metres or more.

# Part 2—Items of plant requiring registration

# 3—Items of plant requiring registration

- 3.1 Boilers categorised as hazard level A, B or C according to criteria in Section 2.1 of AS 4343: 2005 (*Pressure equipment—Hazard levels*).
- 3.2 Pressure vessels categorised as hazard level A, B or C according to the criteria in Section 2.1 of AS 4343: 2005 (Pressure equipment—Hazard levels), except—
- (a) gas cylinders; and
- (b) LP Gas fuel vessels for automotive use; and
- (c) serially produced vessels.
- 3.3 Tower cranes including self-erecting tower cranes.
- 3.4 Lifts, including escalators and moving walkways.
- 3.5 Building maintenance units.
- 3.6 Amusement devices covered by Section 2.1 of AS 3533.1: 2009 (Amusement rides and devices—Design and construction), except devices specified in clause 4(2).
- 3.7 Concrete placement units with delivery booms.
- 3.8 Mobile cranes with a rated capacity of greater than 10 tonnes.

# 4—Exceptions

- (1) The items of plant listed in clause 3 do not include a crane or hoist that is manually powered.
- (2) The following devices are excluded from clause 3.6:
- (a) class 1 devices;
- (b) playground devices;
- (c) water slides where water facilitates patrons to slide easily, predominantly under gravity, along a static structure;
- (d) wave generators where patrons do not come into contact with the parts of machinery used for generating water waves;
- (e) inflatable devices, other than inflatable devices (continuously blown) with a platform height of 3 metres or more.



# Appendix 8 Technical Standards for Plant (Appendix C from Managing Risks of Plant in the Workplace Code of Practice)

The following table is a list of published technical standards that provide guidance on the design, manufacture and use of certain types of plant. These technical standards provide guidance only and compliance with them does not guarantee compliance with the WHS Act and Regulations in all instances. This list is not exhaustive. See Key on Page 3.

Plant Description	Reference Number	Standard Title	Design	Make	Use
Amusement Structures	AS 3533	Amusement Rides and Devices	•	•	•
Cranes, including	AS 1418 (Series)	Cranes Including Hoists and Winches	•	•	
hoists and winches	AS 4991 - 2004	Lifting devices	•	•	•
	AS 2550 (Series)	Cranes – Safe use			•
Conveyers	AS 1755 - 2000	Conveyers - Safety requirements	•	•	•
Electrical installation	AS 3000	Electrical installation (known as the Aust/NZ wiring rules)			•
Electrical installation within an industrial plant	AS/IEC 60204.1	Safety of machinery: Electrical equipment of machines-General requirements	•	•	
Earthmoving machinery	AS 2294.1	Earthmoving machinery – Protective structures - General	•	•	
,	AS 2958.1	Earthmoving Machinery – Safety – Wheeled machines-Brakes	•	•	•
	ISO 6165	Earthmoving machinery – Basic types – Identification and terms and definitions	•		
	ISO 6746-1	Earth-moving machinery - Definitions of dimensions and codes - Part 1: Base machine	•		
	ISO 6746-2	Earth-moving machinery - Definitions of dimensions and codes - Part 2: Equipment and attachments	•		
	ISO 7133	Earth-moving machinery - Tractor- scrapers – Terminology and commercial specifications	•		
Explosive Powered tools	AS/NZS 1873 (Series)	Power-actuated (PA) hand-held fastening tools.	•	•	•
Hand-held electric tools	AS/NZS 60745	Hand-held motor operated electric tools  – Safety – General requirements	•	•	•
Fall arrest	AS/NZS 1891.1	Industrial fall-arrest systems and devices - Harnesses and ancillary equipment	•	•	
	AS/NZS 1891.4	Industrial fall-arrest systems and devices - Selection, use and maintenance			•
	BS EN 1263-1:2002	Safety nets-Safety requirements, test methods	•		
Gas cylinders	AS 2030.1-1999	Gas cylinders-General requirements (known as SAA Gas Cylinders Code )	•	•	
	AS 2337.2 -2004	Gas cylinder test stations			•
	AS/NZS 3509	LP (Liquefied Petroleum Gas) Fuel - Vessels for Automotive Use.	•	•	
Industrial (Forklift) trucks	AS 2359 (Series)	Powered industrial trucks	•	•	•
Industrial rope access systems	AS 4488.2-1997	Industrial rope access systems	•	•	•

Plant Description	Reference Number	Standard Title	Design	Make	Use
Lasers	AS/NZS 2211 (Series)	Safety of laser products	•	•	•
	AS 2397	Safe use of lasers in the building and construction industry			•
	AS/NZS IEC 60825.1: 2011	Safety of laser products – Equipment classification and requirements	•	•	•
Lifts	AS 1735 (Series)	Lifts, escalators and moving walks (known as the SAA Lift Code)	•	•	•
Machinery	AS 4024 (Series)	Safety of machinery	•	•	•
	AS 1657	Fixed platforms, walkways, stairways and ladders-Design, construction and installation	•	•	
	AS 1788.2 -1987	Abrasive wheels-Selection, care and use	•	•	•
	AS 1893-1977	Code of practice for the guarding and safe use of metal and paper cutting guillotines	•	•	•
	AS 2661-1983	Vapour degreasing plant – Design, installation and operation – Safety requirements	•	•	•
	AS/NZS 3947.3:2001	Low-voltage switchgear and control gear, switches, disconnectors, switch-disconnectors and fuse combination units	•		•
	AS 61508.6 -2011	Functional safety of safety related systems	•	•	•
	AS/IEC 61511	Functional safety – Safety instrumented system for the process industry sector	•	•	•
	AS 62061	Safety of machinery: Functional safety of safety-related electrical, electronic and programmable electronic control systems	•	•	•
	ISO 13849.1	Safety of machinery: Safety-related parts of control systems-General principles	•	•	•
	BS/IEC 6496-2:1997	Safety of machinery, Electro sensitive protective equipment	•		•
	AS 1121.1:2007	Agricultural tractor power take-offs - rear-mounted power take-off types 1, 2 and 3 - General specifications, safety requirements, dimensions for master shield and clearance zone	•	•	
	AS 1636	Agricultural wheeled tractors - Roll-over protective structures criteria and tests	•	•	
	AS/NZS 2153.1:1997	Tractors and machinery for agriculture and forestry - Technical means for ensuring safety - General	•	•	
	SAE J167-2011	Overhead protection for agricultural tractors - Test procedures and performance requirements	•	•	
Miniature boilers	AMBSC Code -Part 1	Copper Boilers - Issue 7-2001	•	•	
	AMBSC Code –Part 2	Steel Boilers – Issue 4-1995	•	•	
	AMBSC Code - Part 3	Sub-Miniature Boilers – Issue 1-2008	•	•	
D	AMBSC Code – Part 4	Duplex Boilers – Issue 1-2010	•	•	
Pressure equipment	AS/NZS 1200:2000 AS 2593:2004	Pressure Equipment  Boilers – Safety management and supervision systems	•	•	•
	AS 2971:2007	Serially produced pressure vessels	•	•	
	AS/NZS 3788:2006	Boiler and pressure vessels – In service inspection			•
	AS 3873 :2001	Boiler and pressure vessels – Operation and maintenance			•
	AS 3920.1-1993	Assurance of product quality – Pressure	•	•	

Plant Description	Reference Number	Standard Title	Design	Make	Use
		equipment manufacture			
	ASME I	Power boilers	•	•	
	ASME II	Materials	•	•	
	ASME V	Non-destructive examination	•	•	
	ASME VIII-1	Pressure vessels	•	•	
	ASME VIII- 2	Pressure vessels – alternative rules	•	•	
	ASME VIII-3	Alternative rules for construction of high pressure vessels	•	•	
	ASME IX	Welding and brazing qualifications	•	•	
	ANSI / NGV-2	Basic requirement of compressed natural gas vehicle fuel containers	•	•	
	CSA B51 Part 2	High pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles	•	•	
	ISO 11439:2000	High pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles	•	•	
	ISO/EN 13458 (Series)	Cryogenic vessels – Static vacuum insulated vessels	•	•	•
Pressure piping	AS 4041-2006	Pressure piping	•	•	
Machinery guarding	AS 4024 (Series)	Safeguarding of machinery – general principles	•	•	•
	ISO 12100:2010	Safety of machinery – General principles for design	•	•	•
Scaffolding	AS/NZS 1576.1:2010	Scaffolding – general requirements	•	•	
-	AS 1577-1993	Scaffold planks	•	•	
	AS/NZS 4576	Guidelines for scaffolding			•
Ladders	AS/NZS 1892.1/1892.2/1892.3	Portable ladders	•	•	
Spray painting	AS/NZS 4114.1	Spray painting booths. Part 1: Design, construction and testing	•	•	•
	AS/NZS 4114.2	Spray painting booths. Part 2: Installation and maintenance			•
Turbines	BS/EN 60593-2:1996	Rules for steam turbine acceptance tests	•		
	API 612	Special purpose steam turbines for refinery services	•		
Ventilation	AS 1668.2	The use of ventilation and air conditioning in buildings	•	•	•
Woodworking	AS1473	Guarding and safe use of wood working machinery	•	•	•
Work boxes- crane lifted	AS 1418.17 1996	Cranes (including hoists and winches)	•	•	
	AS 2550	Cranes – Safe use			•
	AS 3860-1991	Fixed guideway people movers	•	•	•
	ISO 2374	Lifting appliances – Range of maximum capacities for basic models	•	•	

# Key:

# **Abbreviations Name**

ANSI American National Standards Institute

API American Petroleum Institute

AMBSC Australian Miniature Boiler Safety Committee

AS Australian Standard

ASME American Society of Mechanical Engineers
AS/NZS Australian Standard / New Zealand Standard

BS British Standard

CSA Canadian Standards Association

EN	Europaische Norm (European Standard)
IEC	International Electrochemical Commission
ISO	International Standards Organisation
NIZC	Now Zooland Standards

NZS New Zealand Standards

SAE Society of Automotive Engineers