



# WHS-PRO-017

## Plant and Equipment Procedure

WHS-PRO-017 Plant and Equipment Procedure					
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## PURPOSE

The purpose of this procedure is to ensure that the risks associated with the use of plant are assessed and that control measures are implemented in accordance with the hierarchy of controls.

## SCOPE

Applies to the general duty of care under the WHS Act applies to the inspection and maintenance of plant and equipment required by statutory regulations and that which could become hazardous because of use, misuse or failure.

## REFERENCES

- AS/NZS 4801:2001 OH&S Management Systems – 4.4.6 Hazard Identification, Hazard/Risk Assessment and Control of Hazards
- WHS Regulations 2011 - Chapter 5: Plant and Structures
- Safe Work Australia - Code of Practice – Managing the Risks of Plant in the Workplace

## DEFINITIONS

### **Plant**

Includes any machinery, equipment, appliance, container, powered implements and tools, and includes any component or anything fitted or connected to any of those things. Plant includes items as diverse as lifts, cranes, machinery, conveyors, forklifts, and vehicles..

### **Competent Person**

Means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

### **Fixed Plant**

Plant which has been designed and installed such that during its normal operation it does not change its location. It includes ovens, presses, conveyors, mixers, mills, lathes, and bench drills.

### **Manager**

For the purposes of this procedure, the term 'manager(s)' refers to either the Building and Site Services Manager, the Projects Manager, or the Volunteer Manager. The manager responsible will be dependent on the site on which the works are being undertaken.

## FORMS

- [WHS-FOR-017.1 Plant Risk Assessment](#)
- [WHS-FOR-017.2 Plant Register](#)

## ACTIONS AND RESPONSIBILITIES

### Duty of Care

- Sydney Harbour Federation Trust has the primary duty under the WHS Act to ensure, so far as is reasonably practicable, that employees and other persons are not exposed to health and safety risks arising from the business or undertaking.
- This duty includes ensuring, so far as is reasonably practicable:
  - the provision and maintenance of safe plant, and
  - the safe use, handling, storage and transport of plant.
- The WHS Regulations include specific duties and requirements to:
  - manage the health and safety risks associated with plant
  - prevent unauthorised alterations to or interference with plant, and
  - use plant only for the purpose for which it was designed unless the proposed use does not increase the risk to health or safety.
- The management of the risks associated with plant in the workplace includes a systematic process that involves:
  - identifying hazards
  - if necessary, assessing the risks associated with these hazards,
  - implementing and maintaining risk control measures, and
  - reviewing risk control measures.

### Identification of Hazards and Risks

- Managers shall inspect each item of plant in the workplace and identify any hazards and risks associated with that plant using the **WHS-FOR-017.1 Plant Risk Assessment**.
- When identifying hazards consider all the activities that may be carried out during the life of the plant at the workplace, such as: installation, commissioning, operation, inspection, maintenance, repair, transport, storage and dismantling.
- For each of these activities, you should consider whether the plant could:
  - cause injury due to entanglement, falling, crushing, trapping, cutting, puncturing, shearing, abrasion or tearing
  - create hazardous conditions due to harmful emissions, fluids or gas under pressure, electricity, noise, radiation, friction, vibration, fire, explosion, moisture, dust, ice, hot or cold parts, and
  - cause injury due to poor ergonomic design, for example if operator controls are difficult to reach or require high force to operate.
- Other factors to consider include:
  - the condition of the plant, for example its age, its maintenance history and how frequently the plant is used
  - the suitability of the plant, for example is it actually being used for its intended purpose
  - the location of the plant, for example what is its impact on the design and layout of the workplace and are employees able to access the plant without risk of slips, trips or falls
  - abnormal situations, for example what abnormal situations, misuse or fluctuation in operating conditions can you foresee

### Assessing the Risks

Where hazards and environmental aspects are identified on the **WHS-FOR-017.1 Plant Risk Assessment**, the Manager shall ensure that a risk assessment is completed as per the requirements of the **WHS-PRO-008 Risk Management** procedure.

### Controlling Plant and Equipment Risks

- The Manager shall ensure suitable controls are selected and implemented where plant and equipment risks are identified.
- Examples of plant and equipment controls (from most to least effective) could include:
  - determining whether the task can be completed by an alternative method e.g. purchasing timber pre-cut to the correct length;
  - training employees in appropriate courses to obtain the required competencies;
  - developing Standard Operating Procedures;
  - providing Personal Protective Equipment (PPE) such as ear and eye protection.

### High Risk Work Licences

- Certain types of plant, such as industrial lift trucks and some types of cranes, require the operator to have a high-risk work licence before they can operate the plant.
- Schedule 3 of the WHS Regulations sets out the classes of high risk work licences and the types of plant involved.

### Inspecting Plant

- In accordance with **WHS-PRO-030 Monitoring and Measurement**, Sydney Harbour Federation Trust ensures inspections are carried out for to check specific conditions while at the same time checking actual performance against predetermined standards.
- Managers shall ensure the inspection of plant should be conducted in accordance with a regular maintenance system to identify any:
  - potential problems that were not anticipated during plant design or task analysis
  - deficiencies in plant or the equipment associated with use of plant, for example wear and tear, corrosion and damaged plant parts
  - adverse effects of changes in processes or materials associated with plant,
  - inadequacies in control measures that have been previously implemented.
- Inspection of associated work processes should be conducted regularly to identify any:
  - unsafe work practices associated with the use of plant
  - negative effects of changes in processes or materials associated with plant,
  - inadequacies in control measures that have been previously implemented.

### Plant Register

- Managers shall keep an up-to-date register **WHS-FOR-017.2 Plant Register** of the items of plant requiring regular inspection and maintenance.
- It should include information on:
  - allocated responsibilities for people dealing with inspections
  - standards against which plant should be inspected
  - the frequency of inspections
  - critical safety instructions to be followed during inspection, for example, the isolation procedure
  - the procedures for particular types of inspections, including:

- periodic inspections
- specific tests
- repaired or modified plant
- any variations from normal operation or dangerous occurrences and any trends that may be occurring.

### **Maintenance, Repair and Cleaning of Plant**

- Managers shall ensure a record of inspections and maintenance is kept for each item of plant and equipment.
- This includes scheduled maintenance, breakdown maintenance and replacement of parts outside the scheduled maintenance program.
- Maintenance requirements should be determined in accordance with the supplier or manufacturer recommendations.
- Details recorded for plant and equipment should as a minimum include:
  - plant and equipment name;
  - location;
  - serial or identification number;
  - description of work performed;
  - completion date of repairs/maintenance;
  - who the work was performed by.

### **Purchasing and Hiring Plant**

- Managers shall ensure before purchasing or hiring plant, check that it is suitable for the intended use, including the environment it will be used in and the employees using it.
- Managers should discuss your needs with the plant supplier, who shall provide you with information about:
  - the purpose for which the plant was designed or manufactured
  - the results of any calculations, analysis, testing or examination
  - any conditions necessary for the safe use of the plant, and
  - any alterations or modifications made to the plant.
- Before purchasing, hiring or leasing plant Managers should also determine:
  - the hazards and risks associated with installation, commissioning, operation, inspection, maintenance, repair, transport, storage and dismantling of the plant
  - control measures needed to minimise these hazards and risks
  - the manufacturer's recommendations in relation to the frequency and type of inspection and maintenance needed
  - any special skills required for people who operate the plant or carry out inspection and maintenance
  - any special conditions or equipment required to protect the health and safety of people carrying out activities such as installation, operation and maintenance, and
  - any alterations or modifications to be made to the plant.

### **Isolation of Energy Sources**

- The following isolation procedure should be followed when employees are required to perform tasks such as maintenance, repair, installation and cleaning of plant.
- Isolation procedures involve the isolation of all forms of potentially hazardous energy so that the plant does not move or start up accidentally.

- Isolation of plant also ensures that entry to a restricted area is controlled while the specific task is being carried out.
- The lock-out process is the most effective isolation procedure and the process is as follows:
  - shut down the machinery and equipment
  - identify all energy sources and other hazards
  - identify all isolation points
  - isolate all energy sources
  - control or de-energise all stored energy
  - lock out all isolation points
  - tag machinery controls, energy sources and other hazards, and
  - test by 'trying' to reactivate the plant without exposing the tester or others to risk. Failure to reactivate the plant means that the isolation procedure is effective and that all stored energies have dissipated. This may require further measures to safely release these energies, for example hydraulic or pneumatic pressure, suspended weight or compressed springs.
- In order for the isolation procedure to be effective, identify all energy sources likely to activate the plant or part of it and isolate or de-energise these to avoid the plant being inadvertently powered.
- Energy sources include:
  - electricity (mains)
  - battery or capacitor banks
  - solar panels
  - fuels
  - heat
  - steam
  - fluids or gases under pressure (water, air, steam or hydraulic oil)
  - stored energy (e.g. compressed springs)
  - gravity, and
  - radiation.
- In order to isolate plant, use a device that effectively locks out the isolation points. These devices include switches with built-in locks and lock-out circuit breakers, fuses and valves. Other devices include chains, safety lockout jaws (also known as hasps) and safety padlocks.
- When isolating an energy source use a lock that allows one or more padlocks to be fitted. If more than one person is working on the plant at the same time, ensure that each employee is able to attach a padlock to the device. This will prevent access to the energy sources while the work is being carried out.
- Each employee involved in the maintenance, cleaning or repair of the plant should have a lock, tag and key for each isolation point. There should be no duplicate key for any lock, except a master key that is kept in a secure location and should only be used in an emergency.
- If more than one energy source needs to be isolated to enable safe shut-down of the plant, the single key to each lock-out device should be held by the same person.
- Tags should only be used as a means of providing information to others at the workplace. A tag should not be used on its own as an isolation device; only a lock is effective at isolating the energy source.

## Records

- Directors shall ensure records associated with plant in the workplace.
- Keeping records of the risk management process demonstrates potential compliance with the WHS Act and Regulations. It also helps when undertaking subsequent risk assessments.
- Records on items of plant that may be kept may include:
  - the unique plant identification number
  - compliance statements and/or test certificates
  - manufacturer's specifications and user manuals
  - results of inspections
  - information on maintenance and major repairs carried out
  - results of risk assessments carried out on plant
  - information, instruction and training provided to employees
  - competencies of operators.

## Training

- Before plant is used in your workplace, Managers shall ensure employees and other persons who are to use the plant with information, training, instruction or supervision that is necessary to protect them from risks arising from the use of the plant.
- Managers shall also provide the necessary safety information to persons who are involved in installing, commissioning, testing, maintaining or repairing plant, as well as decommissioning, dismantling or disposing of plant. This should include information on the types of hazards and risks the plant may pose to the person when they are carrying out these activities.
- This information may be supported with Standard Operating Procedures that include instructions on:
  - the correct use of guarding and other control measures
  - how to safely access and operate the plant
  - who may use an item of plant, for example only authorised or licensed operators
  - how to carry out inspections, shut-down, cleaning, repair and maintenance
  - traffic rules, rights of way, clearances and no-go areas for mobile plant
  - emergency procedures.
- Managers should take action to correct any unsafe work practices associated with plant as soon as possible.