Managing Plant

HSEQ Management System Procedure

What this procedure describes

The Managing Plant policy outlines how TasNetworks manages the risks associated with plant for all TasNetworks worksites.

Why it is required

- Incorrect procurement, operation and maintenance of plant is a major cause of workplace death and injury in Australian workplaces. This can lead to signification pain and suffering for the individual and costs to the business such as worker's compensation claims and an increase to insurance premiums.

- TasNetworks and its workers have duties to manage the risks associated with plant under the *Work Health and Safety (WHS) Act 2012* and its Regulations.

- The procedure supports TasNetworks' goal of Zero Harm.

Who it applies to and when

The policy applies to all everyone working for, or on behalf of TasNetworks.

Authorisation	
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Authorised by	HSETC Group Leader
Review Cycle	2 Years

Revision History	
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12/04/2017	Original Issue
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Contents

1. Plant

As per the Managing Risks of Plant in the Workplace Code of Practice, plant is defined as machinery, equipment, appliance, container, implement and tool, including any component or anything fitted or connected to any of those things.

1.1 TasNetworks plant covered by this procedure

As covered by the definition, TasNetworks has several different streams of plant and equipment including but not limited to:

Plant and attachments – e.g. mobile elevated platforms, crane borers, staking tractors and vehicle mounted cranes.

Assets – Equipment in:

- Transmission, Distribution, Facilities, Telecommunications/Data centres;
- Operational plant;
- Equipment e.g. include transformers, equipment with integrated electronic protection or control (sectionalises and mobile generators); and
- Substation plant and equipment at the procurement stage and during transport and storage prior to installation or if it is able to be easily moved and is not attached to a permanent structure.

Fleet – e.g. mobile plant, light commercial and passenger vehicles, heavy vehicles.

Powered Tools – e.g. grinders, drills, mobile generators, chainsaw, multimeters, hand held data capture units / Tough Pads / motion tablets, computers and kitchen appliances.

2. The risk management process

The TasNetworks Risk Management framework is applied to identify hazards associated with all plant, assessing and controlling the risks, and monitoring and reviewing the control measures.

The HSE Risk Management Process is applied prior to purchasing or hiring new plant or making adjustments to existing plant. Specific control considerations are included in Section 3 of this document.

3. Controlling the risk

3.1 Purchasing and hiring plant

Prior to purchasing, hiring or leasing plant, the HSEQ Change Procedure, as outlined in the HSEQ Integrated Management System, is applied to ensure the effective management of HSE risk during periods of change. Such risks include:

- hazards and risks associated with the plant, including end of life disposal requirements.
- control measures needed to minimise these hazards and risks.
- the manufacturer's recommendations in relation to the frequency and type of inspection and maintenance required.
- 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.
- any alterations or modifications to be made to the plant.

When purchasing second-hand plant, request information in writing about the condition of the plant and any identified faults from the supplier.

3.2 Installation and commissioning of plant

Plant must be risk assessed prior to installation. All information necessary to minimise any risk must be provided to the competent installer.

Inspections to monitor risk are incorporated in the processes for installation, construction and commissioning of plant to ensure the minimisation of risk as far a reasonably practicable.

Plant is positioned to minimise, as far as reasonably practicable, health and safety risks to anyone.

See Asset Management procedure for more detail.

3.3 Instruction, training and supervision

Before plant use, all workers and other personnel who are to use the plant, are provided with information, training, instruction and/or supervision, as is necessary to protect them from risks arising from the use of the plant.

All necessary safety information, including information on the types of hazards, risks the plant may pose, and controls is provided to all workers and other personnel involved in installing, commissioning, testing, maintaining or repairing plant, as well as decommissioning, dismantling or disposing of plant.

Certain types of plant require operators to hold a high-risk work licence before the plant can be operated. Appendix A – Work requiring a high-risk work licence contains a list of work requiring a high-risk work licence[1].

Workers must not perform work that requires a high-risk work licence unless they have the relevant licence or are formally enrolled in training specific to the licencing requirements for

[1] Schedule 3 – Work Health an Safety Taasmanian Regulations 2012

that class of high risk work and work under the supervision of a person who is licenced to carry out the high-risk work.

3.4 Making changes

Prior to any alteration or change being made to the way the plant is used or to the system of work associated with the plant the change management process is carried out, by a competent person. Consultation with the designer and manufacturer may be part of this process.

If the intention is to change the use of the plant or to use it for a purpose for which it was not designed, the risks associated with the new use must be assessed by a competent person.

3.5 Inspecting Plant

The person with management or control of the plant is responsible to ensure that the maintenance, inspection and if necessary testing of plant (e.g. testing and tagging) is carried out by a competent person (i.e. a ticketed operator or trade person) as per the recommendations of the manufacturer.

Hand held powered plant is repaired and/or replaced as required. Damaged and worn parts are replaced.

3.6 Maintenance, repair and cleaning plant

The responsible leader and team leader ensures the TasNetworks preventative maintenance and inspection processes are followed for all plant under their management and control.

3.7 Storing plant

All plant is stored appropriately to ensure no risk to workers and other people in the workplace. Measures are taken to ensure that powered plant does not move of its own accord while in storage.

Following extended periods of storage, plant is re-commissioned in line with the original commissioning.

3.8 Decommissioning, dismantling and disposing of plant

All hazards relating to the decommissioning, dismantling and disposing of plant are assessed prior to being performed by a competent person.

Decommissioning and dismantling of plant is performed in accordance with the designer's and manufacturer's instructions. If TasNetworks re-sells plant, TasNetworks, as the seller, is to provide any information relating to the design, registration, installation, operation and maintenance to the buyer.

If plant is used for scrap or spare parts, TasNetworks, as the supplier, informs the other party, in writing or by marking the plant, that in its current form, the plant being supplied as scrap or spare parts is not to be used as plant.

4. Specific control measures

4.1 Guarding

Guarding is a physical or other barrier to protect against exposure to hazards. The functions of guarding include:

- controlling against access to dangerous areas of plant
- preventing contact with moving part
- screening from harmful emissions
- noise minimisation
- preventing ejected parts from striking people

The required guarding controls are identified as part of the Change Management Process. This process is conducted prior to purchasing or hiring new plant or making alterations to plant. Factors such as the environment in which the guard is used, is considered as part of the Risk Management Process.

If the guarding is required to be removed, for any reason, the guarding must be replaced before the plant is put back into normal operation. Plant should only be operational when the guarding is in place.

4.2 Operator controls

The person with management or control of plant at TasNetworks is responsible to ensure that operator controls are:

- identified so as to indicate their nature, function and direction of operation
- located so they can be readily and conveniently operated
- located or guarded to prevent unintentional activation
- able to be locked into the 'off' positioner to enable disconnection from energy sources

4.3 Emergency stops

Emergency stop devices are a back-up to other control measures, not a sole control method.

An emergency stop device is to stop the plant and any/all equipment interrelated to operation if continued operation of the related equipment may be dangerous.

Disengagement of an emergency stop must require a deliberate action. Disengagement does not restart the plant but allows activation of the normal starting sequence as per procedures.

4.4 Warning devices

Warning devices are used if there is a likelihood for moving plant colliding with other plant or workers. Warning devises include: audible alarms, motion sensors, light, percussion alarms, radio sensing devices and air horns.

4.5 Isolation of energy sources

Isolation procedures are followed prior to tasks such as maintenance, repair, installation and cleaning of plant to control the risk of any potentially hazardous energy starting or moving the plant accidently.

The Isolation Lock Out Tag Out procedure describes this process.

5. Plant registration

Certain plant designs and items of plant are registrable as per the WHS Regulations. The plant design must be re-registered if it is altered, resulting in any new or modified risk control measures.

Plant registration is valid for five years.

6. Environmental impact

Potential environmental impact is considered when purchasing, using, decommissioning, dismantling or disposing of plant and vehicles.

Areas to be considered include: air pollution, construction noise, operational noise, weed and disease management, responsible disposal and any risks association with the transportation of plant and vehicles.

Refer to TasNetworks Environment Handbook for more information.

7. Plant and equipment operating procedures

Procedures for the use of Plant and Equipment are available on The Zone and are listed in Appendix C – .

8. Keeping records

Records must be kept for all plant requiring design or item registration. In line with good practice, TasNetworks keep records of:

- the unique plant identification number
- plant design registration information
- relevant data from commissioning
- compliance statements and/or test certificates

- manufacturer's specifications and user manuals
- results of inspections
- results of tests on the plant including safety devices (for example, protective earth continuity tests, testing of mechanical guarding, stop time measurement)
- information on maintenance and major repairs carried out
- information on major modifications
- information on use that deviates from intended operating or design conditions
- results of risk assessments carried out on plant
- information, instruction and training provided to workers, and
- competencies of operators.

9. Responsibilities

9.1 Leaders, Team leaders and supervisors (including people managing fleet)

- Apply TasNetworks' Managing HSE Change procedure before introducing new plant or modifying existing plan (for instance, during the procurement stage).
- Ensure workers who use certain types of plant have appropriate training, qualifications and competency.
- Consult the HSE team:
  - if unsure of how to control a risk associated with plant, and
  - if any control measures need to be improved or revised, including these procedures.
- Consult a HSE Advisor if advice is required on environmental and sustainability issues which may arise regarding plant and equipment.
- Maintain records of inspection and maintenance of plant.

9.2 Workers (including contractors and staff at all levels)

- Help TasNetworks identify and assess the risks associated with plant as well as implement control measures by reporting uncontrolled hazards to leaders and contract managers in the case of subcontractors, e.g. missing guarding, maintenance issues.
- Must only operate plant that they are competent and authorised with the appropriate permit, licence or certification.
- Must follow the relevant work practices / procedures / instructions and tools to manage the risks associated with plant.

10. Reference documents

The following documents were reviewed as part of developing this procedure:

Legislation
• *Tasmanian Work Health and Safety (WHS) Act, 2012*
Codes of Practice, Industry Codes, etc.
• Safe Work Australia, 2016, Managing Risks of Plant in the Workplace, Code of Practice. • Safe Work Australia, 2012, Safe Design of Structres, Code of Practice.
TasNetworks Documents
• TasNetworks Asset Management Overview: • TasNetworks Facilities Management plan – 2015-2020: • TasNetworks Asset Management Plan – Service Performance
Forms
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Other Documents/Resources
• Safe Work Australia, 2013, How to Determine What is Reasonably Practicable to meet a Health and Safety Duty

11. Records arising from this procedure

Record	Storage Location

12. Glossary and abbreviations

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Appendix A[2] – Work requiring a high-risk work licence

High risk work licence	Description of class of high risk work
Basic scaffolding	Scaffolding work involving any of the following: (a) modular or pre-fabricated scaffolds; (b) cantilevered materials hoists with a maximum working load of 500 kilograms; (c) ropes; (d) gin wheels; (e) safety nets and static lines; (f) bracket scaffolds (tank and formwork) – but excluding scaffolding work involving equipment, loads or tasks listed in item 2(2)(a) to (g) and item 3(2)(a) to (c)
Intermediate scaffolding	(1) Scaffolding work included in the class of Basic scaffolding; and (2) Scaffolding work involving any of the following: (a) cantilevered crane loading platforms; (b) cantilevered scaffolds; (c) spur scaffolds; (d) barrow ramps and sloping platforms; (e) scaffolding associated with perimeter safety screens and shutters; (f) mast climbing work platforms; (g) tube and coupler scaffolds (including tube and coupler covered ways and gantries) – but excluding scaffolding work involving equipment, loads or tasks listed in item 3(2)(a) to (c)
Advanced scaffolding	(1) Scaffolding work included in the class of Intermediate scaffolding; and (2) Scaffolding work involving any of the following: (a) cantilevered hoists; (b) hung scaffolds, including scaffolds hung from tubes, wire ropes or chains; (c) suspended scaffolds
Dogging	Dogging work
Basic rigging	1) Dogging work (2) Rigging work involving any of the following: (a) structural steel erection; b) hoists; c) pre-cast concrete members of a structure; (d) safety nets and static lines; (e) mast climbing work platforms;

[2] Tasmanian Work Health and Safety Regulations 2012

	(f) perimeter safety screens and shutters; (g) cantilevered crane loading platforms – but excluding rigging work involving equipment, loads or tasks listed in item 6(b) to (f) and item 7(b) to (e)
Intermediate rigging	Rigging work involving any of the following: (a) rigging work in the class Basic Rigging; (b) hoists with jibs and self-climbing hoists; (c) cranes, conveyors, dredges and excavators; (d) tilt slabs; (e) demolition of structures or plant; (f) dual lifts – but excluding rigging work involving equipment listed in item 7(b) to (e)
Advanced rigging	Rigging work involving any of the following: (a) rigging work in the class Intermediate Rigging; (b) gin poles and shear legs; (c) flying foxes and cable ways; (d) guyed derricks and structures; (e) suspended scaffolds and fabricated hung scaffolds
Tower crane	Use of a tower crane
Self-erecting tower crane	Use of a self-erecting tower crane
Derrick crane	Use of a derrick crane
Portal boom crane	Use of a portal boom crane
Bridge and gantry crane	Use of a bridge crane or gantry crane that is – (a) controlled from a permanent cabin or control station on the crane; or (b) remotely controlled and having more than 3 powered operations – including the application of load estimation and slinging techniques to move a load
Vehicle loading crane	Use of a vehicle loading crane with a capacity of 10 metre tonnes or more, including the application of load estimation and slinging techniques to move a load
Non-slewing mobile crane	Use of a non-slewing mobile crane with a capacity exceeding 3 tonnes
Slewing mobile crane – with a capacity up to 20 tonnes	Use of a slewing mobile crane with a capacity of 20 tonnes or less Use of a vehicle loading crane with a capacity of 10 metre tonnes or more, excluding the application of load estimation and slinging techniques to move a load Use of a non-slewing mobile crane with a capacity exceeding 3 tonnes Use of a reach stacker
Slewing mobile crane – with a capacity up to 60	Use of a slewing mobile crane with a capacity of 60 tonnes or less

tonnes	Use of a vehicle loading crane with a capacity of 10 metre tonnes or more, excluding the application of load estimation and slinging techniques to move a load Use of a non-slewing mobile crane with a capacity exceeding 3 tonnes Use of a reach stacker
Slewing mobile crane – with a capacity up to 100 tonnes	Use of a slewing mobile crane with a capacity of 100 tonnes or less Use of a vehicle loading crane with a capacity of 10 metre tonnes or more, excluding the application of load estimation and slinging techniques to move a load Use of a non-slewing mobile crane with a capacity exceeding 3 tonnes Use of a reach stacker
Slewing mobile crane – with a capacity over 100 tonnes	Use of a slewing mobile crane with a capacity exceeding 100 tonnes Use of a vehicle loading crane with a capacity of 10 metre tonnes or more, excluding the application of load estimation and slinging techniques to move a load Use of a non-slewing mobile crane with a capacity exceeding 3 tonnes Use of a reach stacker
Materials hoist	Use of a materials hoist
Personnel and materials hoist	Use of a personnel and materials hoist
Boom-type elevating work platform	Use of a boom-type elevating work platform where the length of the boom is 11 metres or more
Concrete placing boom	Use of a concrete placing boom Reach stackers
Reach stacker	Operation of a reach stacker of greater than 3 tonnes capacity that incorporates an attachment for lifting, moving and travelling with a shipping container, but does not include a portainer crane
Forklift truck	Use of a forklift truck other than an order-picking forklift truck
Order-picking forklift truck	Use of an order-picking forklift truck
Standard boiler operation	Operation of a boiler with a single fuel source that does not have a pre-heater, superheater or economiser attached
Advanced boiler operation	Operation of a boiler, including a standard boiler, which may have one or more of the following: (a) multiple fuel sources; (b) pre-heater; (c) superheater; (d) economiser
Turbine operation	Operation of a turbine that has an output of 500 kilowatts or more and – (a) is multi-wheeled; or

	(b) is capable of a speed greater than 3 600 revolutions per minute; or (c) has attached condensers; or (d) has a multi-staged heat exchange extraction process
Reciprocating steam engine	Operation of a reciprocating steam engine where the diameter of any piston exceeds 250 millimetres
Boom-type elevating work platform	For the purposes of table 3.1 item 21, the length of a boom is the greater of the following: (a) the vertical distance from the surface supporting the boom-type elevating work platform to the floor of the platform, with the platform extended to its maximum height; (b) the horizontal distance from the centre point of the boom's rotation to the outer edge of the platform, with the platform extended to its maximum distance.

Appendix B – Plant requiring registration in Schedule 5 (Part 1) of the WHS Regulations

Under the WHS Regulations, the following items of plant require registration of their design:

- pressure equipment, other than pressure piping, 'heritage boilers'
- gas cylinders covered by Part 1.1 of AS 2030.1
- tower cranes, including self-erecting tower cranes (except cranes or hoists that are manually powered, scissor lifts, vertically moving platforms and tow trucks)
- lifts, escalators and moving walkways
- building maintenance units
- hoists with a platform movement exceeding 2.4 metres, designed to lift people
- work boxes designed to be suspended from cranes
- amusement devices classified by section 2.1 of AS 3533 (except class 1 structures, playground devices, water slides, wave generators, sealed inflatable devices and inflatable devices that do not use a non-return valve)
- concrete placement units with delivery booms
- prefabricated scaffolding and prefabricated formwork
- boom type elevating work platforms
- 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 11 hazardous chemicals
- vehicle hoists
- mast climbing work platforms
- mobile cranes with a rated capacity of greater than 10 tonnes.

Under the WHS Regulations the following items of plant and equipment are required to be registered:

- certain boilers and pressure vessels
- tower cranes, including self-erecting tower cranes (excluding cranes and hoists that are manually powered)
- lifts, escalators and moving walkways
- building maintenance units
- amusement devices classified by section 2.1 of AS 3533 (except class 1 structures, playground devices, water slides, wave generators, sealed inflatable devices and inflatable devices that do not use a non-return valve)
- concrete placement units with delivery booms
- mobile cranes with a rated capacity of greater than 10 tonnes.

Appendix C – Work Practices

Lifting or Lowering Loads With Winches

Operating Cranes

Operating Portable Winches

Operating Vehicle Mounted Winches

Using a Pole Hole Borer Erector (PHBE) in the power distribution system

Using Mobile Elevating Work Platforms

Care and Use of Lifting Gear

Operating Fork Lifts Trucks & Use Of Lifting Attachments

Elevated Work Platform

Use of Proline

Transmission and Distribution Switchgear Manual E Book Link