Procedure

Safe Work with Plant

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Contents

1. Purpose

The intent of this document is to eliminate or minimise the risks of fatalities, injuries and events arising from the use of plant and equipment at Seqwater workplaces.

2. Scope

This Procedure applies to all employees, contractors and workers working for or on behalf of Seqwater, unless otherwise stated.

3. Critical Controls

Mobile Plant		
#	**Critical Controls**	**Objective**
1	Fit for purpose mobile plant	To prevent the use of mobile plant; in unsuitable conditions or outside its operational limits
2	Traffic Management established where mobile plant is in proximity to persons or other vehicles	To prevent interaction between mobile plant and pedestrians
3	Emergency Services assistance	To minimise the impact of interaction with vehicles and mobile plant on human life
4	No persons "In the firing line" of mobile plant	To prevent interaction between mobile plant and pedestrians
5	Mobile Plant operated to conditions, manufacturer's instructions and within specified limits	To ensure mobile plant is operated to conditions and manufacturer's instructions / limits
Hazardous Energy (fixed plant)		
#	**Critical Controls**	**Objective**
1	Guarding and screens e.g. permanently fixed, interlocked, or self-closing	To prevent a worker contacting moving parts of operating fixed plant / equipment
2	Isolation	To prevent de-energised fixed plant / equipment from becoming energised or inadvertently operated
3	Exclusion zone	To prevent a worker entering an area where moving parts of operating plant or ejected parts of failed plant may strike them
4	Physical barrier e.g. screens, curtains, cages or walls	To prevent a worker being struck by operating fixed plant or moving object
5	Emergency Services assistance	To minimise the impact of interaction with hazardous energy on human life

4. Procedure

4.1. What is plant at Seqwater workplaces

For the purposes of this procedure, 'Plant' refers to the following:

- **Heavy equipment**: Cranes (including overhead gantry and car-mounted), forklifts, excavators
- **Vehicles and vessels**: Cars, boats, kayaks
- **Fixed plant**: Machinery such as conveyor belts, drill presses, lathes, and other industrial equipment.
- **Mobile plant**: Equipment like bulldozers, graders, and loaders that can move around a worksite.

4.2. Managing plant at Seqwater workplaces

The diverse nature of Seqwater workplaces introduces significant complexity in relation to how plant is managed and who is responsible for the safe operation, maintenance and storage of plant.

To clarify any ambiguity surrounding the safe management of plant at Seqwater workplaces, Seqwater has defined responsibilities for the following situations:

- plant owned or operated at Seqwater workplaces by Seqwater workers or its contractors
- plant owned or operated by a third party (pursuant to a lease, licence, temporary land access arrangement or other agreement) at Seqwater workplaces

Specific requirements for each of the above situations are identified in the following sections.

4.2.1. Plant owned or operated by Seqwater or its contractors

The requirements of this Procedure apply to all plant that is:

- directly owned by Seqwater and operated by Seqwater workers
- hired or leased by Seqwater and operated by Seqwater workers
- owned or operated by a contractor engaged by Seqwater to undertake work on behalf of Seqwater.

4.2.2. Third party operations

Where plant is stored or operated at a Seqwater workplace by a third party (pursuant to a lease, access licence or other agreement with Seqwater), the following conditions apply:

- the third party is responsible for the safe delivery, operation, maintenance, storage and removal of all plant owned, hired or leased by the third party
- the third party is responsible for ensuring that all plant operated at a Seqwater workplace is compliant with, and operated in accordance with relevant Seqwater requirements , QLD legislation and Australian standards
- the third party must notify Seqwater of any risks to Seqwater workers or assets associated with the storage or operation of the plant and define the risk controls in place to manage these risks
- the third party must comply with all requirements of the licence, lease or other agreement with Seqwater in relation to the safe operation, maintenance and storage of plant.

4.3. Managing plant risks

The following steps must be implemented to manage the risks associated with plant:

1. Identify hazards associated with the use of plant at Seqwater workplaces.
2. Assess the risks associated with the identified plant.

3. Identify and implement risk control measures.
4. Review risk control measures.

All risk assessment activities must be undertaken in accordance with the Hazard Identification and Risk Management Procedure (PRO-00657).

4.3.1. Obtaining Information regarding plant

In order to manage the risks associated with operating, maintaining or storing plant at Seqwater workplaces, the worker who is responsible for operating and/or maintaining the item of plant should obtain information regarding the item of plant from operators, maintainers, designers, manufacturers, importers, regulators and suppliers.

This information includes:

- the purpose for which plant was designed or manufactured
- operating and maintenance manuals
- the results of any calculations, analysis, testing or examination of the plant
- any specific conditions necessary for the safe use of the plant.

When developing a plant risk assessment, additional information should be sought from workers who regularly operate and maintain the plant as they have a working knowledge of the hazards and risk associated with the plant. Drawing on the experience, knowledge and ideas of workers will result in improved identification of hazards and the development of effective risk controls.

Where third parties own and operate plant on Seqwater workplaces (e.g. Carbon Dioxide Plant owned and operated by a third party at a Seqwater water treatment plant), the relevant operations, maintenance or catchment coordinator for the workplace that the plant is located must obtain all relevant plant information from the owner of the plant to determine:

- if Seqwater workers could be exposed to hazards from the plant
- what Seqwater and the owner of the plant will do to control any risks associated with the operation and maintenance of the plant.

4.3.2. Identifying hazards associated with plant

Identifying hazards associated with plant involves finding all of the things and situations that could potentially cause harm to workers. Hazards associated with plant generally arise from:

- the plant itself, for example hazards associated with a forklift would include hazards relating to its mobility, its electrical, hydraulic and mechanical power sources, moving parts, load-carrying capacity and operator protection
- how and where the plant is used, for example a forklift may have hazards arising from the kind of loads it is used to lift, the size of the area in which it is used and the slope or evenness of the ground.

Identifying plant hazards is a critical step in the safe operation and maintenance of plant at Seqwater workplaces and is the first step in the development of plant risk assessments.

4.3.2.1. Plant inspections (for hazard identification)

Plant inspections must be undertaken by workers responsible for operating and/or maintaining plant to identify hazards associated with plant. Plant inspections must be undertaken before an item of plant is used for the first time, when any alterations are made to the item of plant, when a near miss or incident occurs. Plant inspections must be undertaken in accordance with manufacturer's requirements.

Results of inspections are to be recorded in the plant risk assessment, the appropriate logbook for the plant and in the site hazard register.

Plant inspections involve observing how plant is used in the workplace and discussing with workers, Line Supervisors, Equipment Owners and their health and safety representatives to find out what their experience is with the plant they operate, maintain or repair.

If plant is hired or leased, the worker hiring the plant must consult the owner of the plant regarding potential hazards associated with the plant.

When undertaking plant inspections, all the activities that may be carried out during the life of the plant at the workplace must be considered, including installation, commissioning, operation, inspection, maintenance, repair, transport, storage and dismantling of plant. For each of these activities, the following should be considered:

- could the plant cause injury due to entanglement, falling, crushing, trapping, cutting, puncturing, shearing, abrasion or tearing
- does the plant 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
- could the plant 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 workers 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 be foreseen.

4.3.2.2. Review incident records and data

When developing a plant risk assessment, any records of workplace injuries and illness, dangerous incidents, plant inspection reports, plant failure data, maintenance logs and the results of any investigations to collect information about plant hazards must be obtained and reviewed. This information should be incorporated into the plant risk assessment for the item of plant and appropriate risk controls incorporated into operating instructions for the item of plant. The HSQ team can support this review.

4.3.3. Plant Risk Assessments

Where plant is operated or maintained by Seqwater workers a plant risk assessment must be undertaken:

- before an item of plant is used for the first time or
- when any alterations are made to the item of plant or
- when a near miss or incident occurs in relation to the item of plant or
- following any relevant changes in legislative requirements or industry standards.

A risk assessment does not need to be completed for every piece of plant if there are numerous plant of the same model, age and type, unless the intention is to use this plant in very different work environments.

Risk assessments should be reviewed a minimum of every 3 years.

The purpose of the plant risk assessment is to determine:

- the hazards and risks
- how significant each risk is
- whether existing control measures are effective
- what action should be taken to control each risk
- how urgently the action needs to be taken.

When assessing the risks associated with plant, the following must be considered:

- whether it is reasonably practicable to eliminate the risks or, if not, to further minimise the risks so far as is reasonably practicable
- the processes and activities undertaken with the plant
- the potential impact of the hazard, i.e. how severe could an injury or illness be? E.g. could the hazard cause lacerations, amputation, serious or fatal crushing injury, burns or loss of hearing
- how likely is the hazard to cause harm
- how frequently are workers exposed to the hazard
- the existing risk control measures in place.

Other factors to consider when undertaking a plant risk assessment include:

- the type of conditions that the plant is being used in (e.g. in a confined space, muddy or dusty environment, or on a steep embankment)
- the condition of the plant (e.g. is it old and missing safety features found on new plant, is it unreliable or often needs responsive maintenance)
- are there other people or items of plant in the vicinity, if so, what effect do they have on the identified hazards
- where and when is access required during the installation, operation or maintenance of plant and in an emergency
- work practices and procedures that exist in relation to plant safety (for example, isolation to carry out maintenance, minimum PPE requirements)
- the level of training, information, instruction and supervision that is provided to workers and other persons who may be exposed to plant
- does the plant's safety depend on the competency of its operators
- how is work with plant organised, for example:
    - pedestrian and vehicular traffic around the plant
    - time spent on repetitive tasks
    - shift work arrangements.

Risk assessments must be documented in Protecht using the Plant Risk Assessment Register.

4.3.4. Selecting plant risk controls

Where a piece of plant is used at a Seqwater workplace, the worker (or third party) responsible for the operation and/or maintenance of the item of plant must ensure risk controls are implemented to ensure the safety of workers and to prevent damage to the workplace.

The hierarchy of controls must be used to select the risk control that most effectively eliminates or, where that is not reasonably practicable, minimises the risk in the circumstances, in accordance with the requirements detailed in the Hazard Identification and Risk Management Procedure (PRO-00657). The identification and selection of risk control measures must be undertaken in consultation with relevant workers.

The table below provides examples of possible risk control measures to be applied to eliminate or mitigate the hazards of operating, maintaining and storing plant at Seqwater workplaces.

Hierarchy of Controls	Example of possible risk control measures
Elimination (Highest level)	• Purchase pre-cut materials to remove the requirement to use plant to cut materials. • Purchasing plant with low noise emissions.
Substitution	• Replace the plant with an alternate (i.e. replacing hydraulic actuators with electric to remove pressure hazards from the workplace) or using remote controlled mowing equipment on steep embankments.
Isolation	• Using concrete barriers to isolate plant from workers. • Storing gas cylinders in specific storage facilities. • Energy tag and lockout procedures and processes (PRO-00014).
Engineering	• Installing emergency stops adjacent to plant. • Installing guards to prevent contact with moving parts. • Installing rollover protection. • Inclusion of pressure relief valves on high pressure equipment.
Administrative	• Pre-start inspections. • Maintenance program to ensure plant is maintained appropriately. • Develop work instructions / SOPs (GDE-00322) /SWMSs (TEM-00013) for undertaking tasks involving plant. • Providing adequate training and supervision. • Licencing requirements. • Warning signage.
Personal Protective Equipment (PPE) (Lowest level control)	• High visibility clothing, hard hats, safety footwear, gloves, safety goggles, ear plugs, etc.

4.3.5. Plant requiring specific risk controls

Specific risk controls are required under the *Work Health and Safety Regulation 2011* (Qld) for certain types of plant, including:

- powered mobile plant
- plant that lifts or suspends persons, plant or loads
- industrial robots
- lasers
- pressure equipment
- tree lopping
- scaffolds.

Requirements for managing the specific hazards associated with the types of plant listed above are identified in sections 214 to 226 of the *Work Health and Safety Regulation 2011* (Qld).

4.3.6. Prohibited items of plant

Items of plant prohibited from being used at any Seqwater workplace by any worker include, but are not limited to:

- Nine inch angle grinders.

4.4. Controlling plant risks from purchase to disposal

In order to safely operate and maintain plant at Seqwater workplaces, consideration must be given to all the activities that may be carried out during the life of the plant. Critical stages in the life of an item of plant at a Seqwater workplace are discussed in sections 4.3.1 to 4.3.11 below.

4.4.1. Purchasing and hiring plant

Prior to purchasing or hiring plant, the worker (or third party) responsible for purchasing or hiring the plant must undertake an assessment to confirm that the item of plant is suitable for the intended use and for the environment in which it will be located. The assessment must be undertaken in accordance with the Plant Procurement Safety Checklist (FRM-00624).

In assessing plant for purchase, hire or lease, the following should be considered:

- the hazards and risks associated with installation, commissioning, operation, inspection, maintenance, repair, transport, storage and dismantling of the plant
- risk controls needed to address these hazards and risks (i.e. are complicated or expensive risk controls required to make the plant safe to operate)
- the manufacturer's recommendations in relation to the frequency and type of inspection and maintenance (i.e. how often will the plant be off-line for inspections, what is involved in undertaking an inspection)
- any special skills required for people who operate the plant or carry out inspection and maintenance (i.e. will the requirement for specifically trained operators and maintainers impact on the operation of the plant)
- any special conditions or equipment required to protect the health and safety of people carrying out activities such as installation, operation and maintenance.

4.4.2. Installing and commissioning plant

4.4.2.1. Positioning plant (fixed plant)

When determining the position of an item of fixed plant at a Seqwater workplace, the worker (or third party) responsible for installing the plant must ensure the following:

- risks from hot plant (friction, molten material, hot gases etc.) are controlled through restricted access, guarding or insulation
- there is sufficient space (suggested 600 mm, the minimum width of a walkway) for safe access to the plant for operation, cleaning, maintenance, inspection and emergency evacuation
- the plant does not obstruct doorways and emergency exits
- the proximity to other plant does not have a negative effect on the operation of the plant or work processes
- the plant rests on a suitable foundation – for example, on a floor or other support that ensures the plant is stable and secure according to designer's or manufacturer's instructions where required
- ventilation is appropriate to the nature and volume of emissions from the plant
- noise exposure to workers is managed in accordance with the Noise Management Procedure (PRO-00304).

4.4.2.2. Installing plant (fixed plant)

When installing fixed plant at a Seqwater workplace, the worker (or third party) responsible for the installation of the item of plant must ensure the following:

- plant is erected or installed in accordance with the designer's or manufacturer's instructions
- access to and egress from plant complies with relevant standards
- plant is stable during installation
- approved or special tools, jigs and appliances necessary to minimise any risk of injury during installation are used
- the interaction of plant with other plant is considered
- the interaction of plant with people and work processes is considered
- environmental factors affecting installation and use (e.g. wet conditions) are considered
- all electrical installations associated with plant comply with AS/NZS 3000 Electrical Installations (also known as the Australian/New Zealand Wiring Rules) to the extent it is relevant.

4.4.2.3. Commissioning plant

Commissioning plant is a process of testing and verifying that the plant is operating in accordance with design criteria, agreed to by the manufacturer or supplier. Commissioning involves an extensive check carried out during the trial phase, prior to the plant being accepted for use.

The extent and complexity of commissioning will vary between items of plant. For the purposes of this Procedure, commissioning also includes recommissioning.

Items of plant requiring registration must not be commissioned unless the item of plant is registered.

Persons involved in the commissioning of plant should include:

- manufactures and/or suppliers of the plant (where practicable)
- Seqwater operations and maintenance workers who will use and maintain the plant
- HSQ team
- line supervisors.

Commissioning methods must:

- be in accordance with the manufacturers/suppliers specification
- not impose stresses which exceed the limitations of design capabilities
- include tests to ensure that the plant will perform to its design specifications
- include typical maintenance checks used by the operator and service personnel
- be fully documented, including the process used and the outcomes of the commissioning activities.

Documented outcomes of commissioning plant should include:

- information about any problems identified during commissioning that suggest the plant cannot be operated safely
- confirmation that the plant will perform the task for which it has been purchased.

4.4.3. Inspection, testing and calibrating plant

Workers (or third parties) responsible for the operation and/ or maintenance of plant must ensure that routine inspection, testing and calibration of plant and associated work processes are undertaken.

Plant inspections, testing and calibration must be undertaken in accordance with the relevant standard.

4.4.3.1. Plant details

Details of all items of plant requiring regular inspection, testing and calibration must be captured and maintained in CIS by the Tactical Maintenance Team.

4.4.3.2. Plant inspection, testing and calibration schedules

The relevant Tactical Maintenance Planner or Operational Maintenance Planner must develop and implement an inspection, test and/or calibration schedule within CIS for each item of plant.

CIS will generate Work Orders for all inspections, testing and/or calibrations required on plant.

4.4.4. Using plant at Seqwater workplaces

Plant must only be used for the purpose for which it is designed, in accordance with any Seqwater requirements, the manufacturer's instruction and any legal requirements. As a minimum this includes, but is not limited to, the following:

- Drivers/operators must be licensed as required by law.
- Seat belts must be worn where fitted.
- Persons must only ride in designated seating.
- Personal hand-held devices (including mobile phones and music devices) must not be used:
    - while operating mobile plant
    - while in control of a vehicle unless via a hands-free device in compliance with the law.
- Any loads must be safely stored and restrained while the plant is in motion.

Workers (or third parties) who operate plant should be competent, or suitably supervised, so that they do not put themselves or others at risk. Competency for particular plant can be verified by completing the HSW Verification of Competency (VOC) Assessment Form (FRM-00638).

All operating manuals and instructional material provided by the manufacturer must be retained and made available to all workers to ensure that it is correctly operated and maintained once it is in the workplace.

Refer to the Fleet and Mobile Plant Policy and Procedure (PRO-01864) for further information on requirements for the safe use of vehicles and mobile plant.

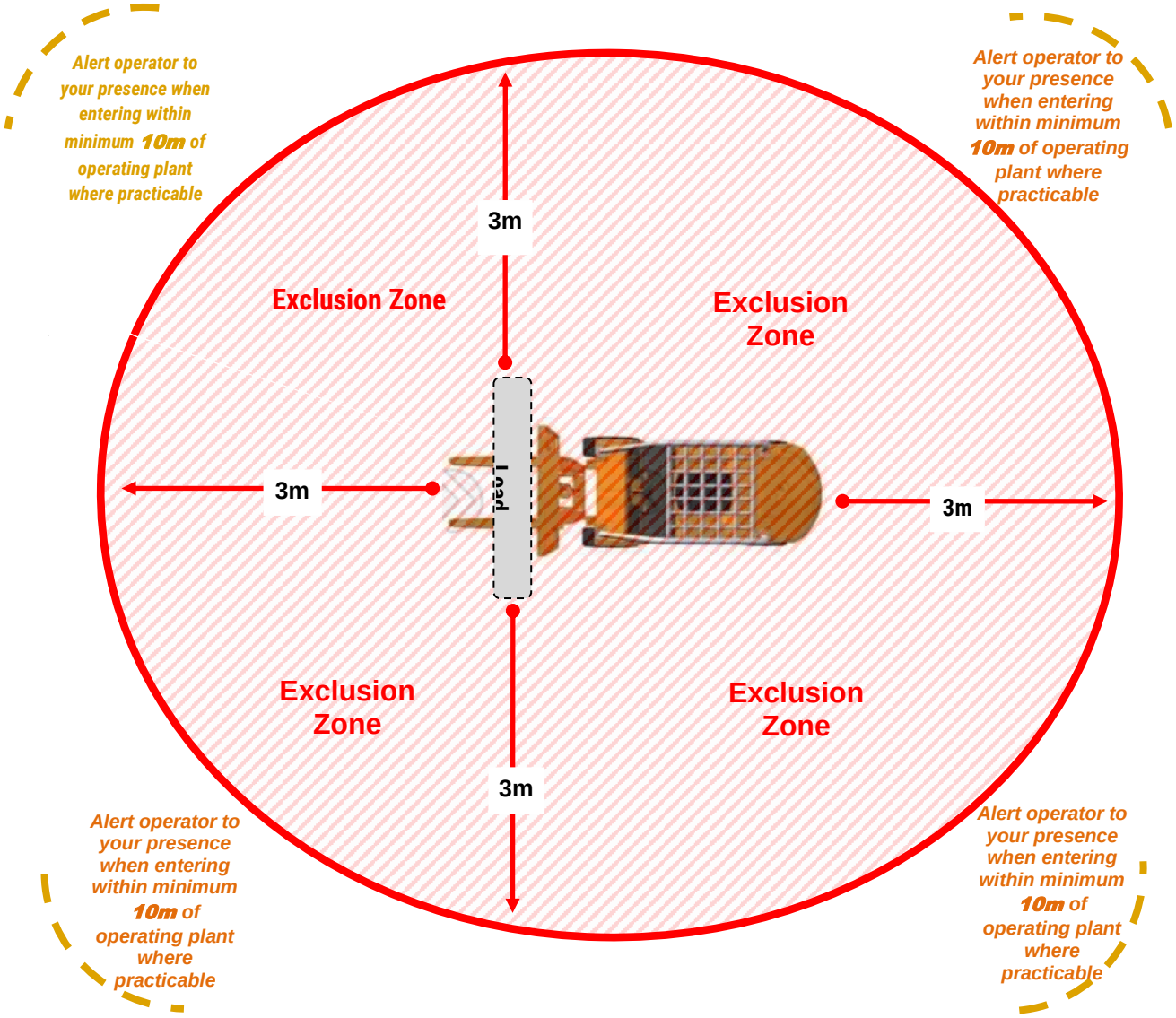
4.4.5. Pre-start inspections

A worker required to use or operate a piece of plant (including hired plant) at a Seqwater workplace must undertake a pre-start inspection prior to using the item of plant.

The pre-start inspection must be undertaken in accordance with manufacturer's requirements or any other requirements specified by the supplier of the plant (i.e. hire company requirements). Where practicable, the details of the pre-start checks should be recorded in the plant logbook.

4.4.6. Exclusion zones for mobile plant

All persons must maintain a minimum exclusion zone of three meters around mobile plant while it is in operation. This exclusion zone is a 360º arc around the machine extending from the machine or any protruding load or slew radius. The following diagram provides further guidance on this requirement.



An exemption to the requirement for a three meter exclusion zone may only apply where:

- robust physical barriers (or equivalent traffic management controls) have been implemented to effectively separate people from the plant
- it is absolutely necessary for a person acting as a designated spotter to enter this zone.

In the event it is absolutely necessary to enter the exclusion zone (e.g. when acting as a designated spotter) the following controls must be applied before approaching:

- the plant operator must cease or restrict operation to prevent accidental contact with the person
- positive communication must be exchanged between the operator and the approaching person
- the person must remain in clear view of the operator at all times.

4.4.7. Faulty or unsafe plant

The following process must be implemented where faulty or unsafe plant is identified at a workplace:

- Identify hazard and cease operating plant
- Affix an out-of-service tag (where appropriate) in accordance with the Energy Tag and Lockout Procedure (PRO-00014) in a position that is clearly visible to anyone who could operate the plant.
- Restrict access to faulty or unsafe plant
- Where an out of service-tag will not adequately control the risks associated with faulty or unsafe plant, access to the item of plant must be restricted through the use of barricades and signage. Barricades must be a minimum of 900mm high and 'Danger-Do Not Enter' signs must be positioned around the item of plant or at all access points to the plant.
- Arrange for maintenance

4.4.7.1. Isolating plant

Any isolation on fixed or mobile plant must be performed in accordance Energy Tag and Lockout Procedure (PRO-00014). An Isolation instruction may be developed using the Isolation Instruction Template (TEM-00077).

4.4.8. Plant incidents, damage or theft

A worker shall report all incidents involving plant to their line supervisor or manager and the Incident Hotline.

Plant damage or theft must be immediately reported to the relevant line supervisor or manager and recorded in Protecht as an incident. These occurrences may require further investigation by Police, Insurance Companies or others, depending on the circumstances.

4.4.9. Storing plant

Plant that is not in use must be stored so that it does not create a risk to workers or other people in the workplace. Managers must ensure that plant that is not in use is left in a state that does not create a risk to the health or safety of any person and is secured to prevent theft or vandalism.

Powered mobile plant may present a risk to health or safety if measures are not taken to prevent the plant moving of its own accord (for example, rolling down a sloping surface, floating down a river), or to prevent unauthorised operation.

Where land based powered mobile plant is unattended for any length of time, the operator of the plant must ensure that the plant has been parked on a firm, level surface with the handbrake applied, the motor switched off and the key removed.

Where powered water craft is unattended for any length of time, the operator of the plant must ensure that the watercraft is appropriately positioned and secured to the shore, to a structure or safely anchored with the motor switched off and the key removed.

4.4.10. Making changes to plant

Where there is a requirement to alter the design of an item of plant, change the way the plant is used or change a system of work associated with the plant, a new plant risk assessment must be undertaken.

The plant risk assessment must:

- be undertaken by a person who is appropriately qualified, competent and experienced in the design and operation of the item of plant

- include an assessment of all aspects of the proposed task
- outline the reasons a purpose-designed item of plant cannot be used for the proposed task, such as the impracticability of using it or additional risks that using purpose-designed plant would generate
- take into account the recommendations of the designer, manufacturer or supplier of the plant and ensure the proposed use is not outside its capabilities
- identify differences between the item of plant and one that is purpose-designed for the task, and describe measures used to control the risks that such plant is designed to control
- amend any relevant documentation, for example, operator and maintenance manuals and signage.

Where a plant risk assessment identifies that the plant is not suitable for the proposed task, it must not be used for that task.

4.4.10.1. Making alterations to plant

Where possible, the designer and manufacturer of an item of plant should be consulted prior to making any alterations to Seqwater owned plant to ensure all relevant safety issues have been considered. Any alterations made to an item of plant will result in Seqwater assuming the obligations of a designer or manufacturer for that piece of plant.

If the original designer or manufacturer cannot be contacted (for older plant or imported plant), any alterations must be carried out by an appropriately qualified and experienced person in accordance with the relevant technical standards.

In the case of plant that requires design registration, the altered design must be registered if the alteration to the design may affect health and safety. Refer to section 4.6.5 of this document for design registration requirements.

Plant should be isolated from power sources and be unable to be switched on or activated accidentally before alterations begin or while alterations are being carried out.

Before returning altered plant to service the following must be implemented:

- adequate control measures in place to eliminate or, where that is not reasonably practicable, minimise any risks created by the alteration including providing information and training for users and supervisors about the changes
- inspect and test the plant, having regard to the altered design specifications and relevant technical standards.

Alterations to plant are not permitted unless prior approval is first obtained by the relevant manager responsible for the item of plant.

4.4.11. Decommissioning, dismantling and disposal of plant

A risk assessment must be undertaken to identify all hazards associated with decommissioning and dismantling plant (for example exposure to hazardous substances). The plant should be dismantled in accordance with the designer's and manufacturer's instructions (where instructions are available).

Disposing of plant may include:

- transfer (for consideration or by gift, in full or part) for use as plant; or
- scrapping (waste disposal and/or recycling).

If the plant is to be transferred for use as plant, Seqwater will take on the duties of a person that supplies plant and must ensure that the plant is safe to load, transport, unload, store, assemble and use. The transfer will generally be governed by terms of an agreement (e.g. contract of sale, deed of gift). Where reasonably practicable,

information relating to the plant design, registration, installation, operation and/or maintenance must be provided to the transferee (depending on the terms of the transfer).

If the plant is to be transferred for use as scrap or spare parts, the person responsible for the plant must notify the transferee that the plant is being supplied as scrap or spare parts and that the plant in its current form is not to be used as plant. This must be done in writing or by marking the item of plant. Where relevant a disclaimer may be required to be completed.

If the plant is to be disposed of as waste, the person responsible for the disposal of the plant must confirm that the plant is safe to load, transport, unload and dispose, and that any necessary approvals have been obtained.

4.5. Reviewing plant risk controls

Existing risk controls for plant must be reviewed:

- when a risk control measure does not control the risk it was implemented to control so far as is reasonably practicable
- before a change at the workplace or with the plant that is likely to give rise to a new or different risk to health or safety that existing risk control measures may not effectively control
- a new hazard or risk is identified
- if the results of consultation indicate that a review is necessary
- if a health and safety representative requests the review.

4.6. Plant tagging and identification requirements

To assist in the management of plant that requires periodic inspection, testing, and/or calibration, plant identification tags are affixed to the plant. The tags are used to identify the items of plant and to confirm the date that the last inspection, test and/or calibration was conducted.

A matrix that defines the tagging and identification requirements for high risk plant and safety equipment is included as Appendix B of this Procedure.

Any piece of plant listed in Appendix B found at a Seqwater site that is out of test date or does not have a tag, must not be used and an out of service tag must be affixed to the plant. The out of service tag must not be removed from the plant until a successful inspection, test and/or calibration has been performed and a new tag affixed.

Chains, dee-shackles and other fixing equipment which are permanently attached to, and used for, the retrieval of submerged plant (e.g. chains and shackles attached to submersible pumps or mixers) are to be inspected at the same frequency as the plant they are attached to.

Plant identification tags are not required to be affixed to chains, dee-shackles or other fixing equipment which are permanently attached to, and used for, the retrieval of submerged plant.

4.7. Plant registration

The *Work Health and Safety Regulation 2011* (Qld) requires certain plant designs and items of plant to be registered (registrable plant). The purpose of registering plant is to ensure that it is routinely inspected by a competent person to ensure it is safe to operate. The type of plant requiring registration is identified in Appendix C of this Procedure.

Other plant or equipment may require registration under the *Electrical Safety Regulation 2013* (Qld), e.g. cathodic protection systems, or other WHS legislation.

4.7.1. Plant registration process

In order to have an item of plant registered, the item must be inspected and a statement provided by a competent person stating that the plant is safe to operate.

A person is competent to inspect an item of plant if the person has educational or vocational qualifications in an engineering discipline relevant to the plant, or knowledge of the technical standards relevant to the plant to be inspected. Competency with particular plant or equipment may also be verified by completing the HSW Verification of Competency (VOC) Assessment Form (FRM-00638).

The Principal Tactical Maintenance must ensure that all items of registrable plant are registered in accordance with the requirements of the *Work Health and Safety Regulation 2011* (Qld).

The following process must be followed for registering plant at Seqwater workplaces:

- Following installation or alteration of plant, an Asset Creation Form is completed by the worker responsible for the installation or maintenance of the plant and submitted to Asset Information (Asset.Information@seqwater.com.au)
- The Tactical Maintenance Planner responsible for the region in which the plant is located will assess the plant and if it is a registrable item of plant, the planner will register the piece of plant with Workplace Health and Safety Queensland (WHSQ).
- The Tactical Maintenance Planner will enter the plant into the relevant asset register in CIS. Plant certificates are attached to the relevant plant in CIS and also saved to TRIM.
- The Tactical Maintenance Planner develops a maintenance schedule in CIS to ensure the plant item is inspected and tested and the relevant frequencies to ensure statutory compliance. CIS creates a work order every time an item of plant requires inspection or testing.

4.7.2. Following plant registration

Following registration, WHSQ will issue a registration document. This document will list the name of the registration holder, any associated business name, the registration number and the date of effect of the registration. This document must be kept and made available for any inspection required under the *Work Health and Safety Act 2011* (Qld).

If the registration document is lost, stolen or destroyed, an application must be made to WHSQ for a replacement document as soon as possible, outlining the reasons for needing a replacement.

WHSQ may impose any conditions it considers appropriate on the registration of the plant including conditions in relation to the use and maintenance of the plant, record keeping or provision of information. The worker responsible for the operation and/or maintenance of the item of plant must ensure that any specific conditions imposed by WHSQ are incorporated into the plant risk assessment, the site risk register and the operating instructions for the item of plant.

For items that comprise many parts assembled in a variable configuration to suit a particular site, it may not be feasible to mark each component of the plant. In such cases the item registration number should be marked on those components that are readily accessible and able to be seen when the plant is fully assembled.

The Tactical Maintenance Team must ensure that an application is made to WHSQ to renew the registration for the item of plant before the registration expires.

4.7.3. Changes to plant registration

The Tactical Maintenance Team must ensure that any changes to any information provided at the time of item registration, or in relation to the registration itself, must be provided to WHSQ within 14 days of becoming aware of the change. This must be done in writing.

Notice must be provided to WHSQ in the following circumstances:

- the item of plant is altered to the extent that it requires new risk control measures
- the item of plant is usually fixed but has been moved
- the registration holder no longer has management or control of the item of plant.

4.7.4. Design and altered design registration

In order to register a plant design, the design must be verified by a design verifier who must provide a statement that the design has been produced in accordance with published technical standards or engineering principles specified by the designer. A design can only be verified by a person who is eligible to be a design verifier under the *Work Health and Safety Regulation 2011* (Qld).

If a plant design is altered so that new risk control measures are required, the altered design must be verified and registered.

Refer to the Engineering Change Management Procedure (PRO-02234) for further information.

5. Training requirements

5.1. 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. Licence requirements for high-risk work activities are identified in Appendix A of this Procedure.

Before plant is used the workplace, line supervisors or managers must ensure that workers and other persons who are to use plant are supplied with information, training, instruction or supervision relevant to the specific piece of plant.

Line supervisors and managers must ensure that standard operating procedures are developed for identified pieces of plant. in accordance with GDE-00322 Standard Operating Procedure Development Guideline.

Information regarding any emergency procedures relating to plant must be displayed to be readily seen by persons who may be affected by the operation of the plant.

Training complies with Seqwater's Learning Governance and System Procedure - PRO-02605.

6. Definitions

Term	Definitions
Cathodic Protection	Is a technique to control the corrosion of a metal surface by making that surface the cathode of an electrochemical cell. Cathodic protection can be achieved in two ways: • by the use of galvanic (sacrificial) anodes (passive), or • by 'impressed' current (active).
Competent Person	Means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task. A competent person has a more specific meaning in the following circumstances: • for design verification, the person must have the skills, qualifications, competence and experience to design the plant or verify the design • for inspection of plant for registration purposes the person must have educational or vocational qualifications in an engineering discipline relevant to the plant being inspected, or • knowledge of the technical standards relevant to the plant being inspected. • Competency for particular plant or tools may be verified by completing the HSW Verification of Competency (VOC) Assessment Form (FRM-00638).
Inspections	Activities such as viewing, measuring, examining, testing, gauging, calculating, checking, verifying one or more characteristics of a product design, material, manufacture, product, service, process, plant or reports and determination of their conformity with specific requirements or, on the basis of professional judgement, with general requirements. NOTES: • The above activities may require multiple parties. • For inspection the 'competent person' should be the 'in-service inspector' or a person with equivalent qualifications and experience.
Inspector	A person able to inspect pressure equipment for the purpose of establishing conformity with the specified requirements.
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, vessels, power tools, playground equipment and cathodic protection systems. Plant that relies exclusively on manual power for its operation and is designed to be primarily supported by hand (e.g. a screw driver) is not covered by the *Work Health and Safety Regulation 2011* (Qld). The general duty of care under the *Work Health and Safety Act 2011* (Qld) 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.

Term	Definitions
Pressure Equipment	Equipment including boilers, pressure vessels, pressure piping, and pressurised storage tanks. Pressure equipment also includes ancillaries such as interconnected parts and components, valves, gauges and other fittings, headers, bolting, gaskets, supports and pressure-retaining accessories. Unless noted, it does not normally include items such as pumps, fans, and similar machinery.
Pressure Vessel	Any vessel designed to be subjected to pressure, internally or externally.
Statutory Plant	Any plant with a statutory requirement for inspection, testing and/or calibration, including any plant that requires registration in accordance with the *Work Health and Safety Regulation 2011* (Qld) or other relevant WHS legislation.
Structure	Anything that is constructed, whether fixed or moveable, temporary or permanent, and includes: • buildings, masts, towers, framework, pipelines, transport infrastructure and underground works (shafts and tunnels) • any component of a structure • part of a structure.

7. Roles and Responsibilities

Role	Responsibility
HSQ Team	• Provide advice, support and consultation on the hazards of working with the safe use of plant, including identification and implement of risk controls. • Support the development of Plant Risk Assessments for plant used by Seqwater workers.
Line Supervisors	• Assess and manage hazards associated with the safe use of plant in consultation with workers and/or health and safety representatives, including coordinating the development of Plant Risk Assessments for all items of plant within their area of responsibility. • Implement and regularly review controls to mitigate the risks of working with plant. • Ensure workers within their areas of responsibility only use items of plant they are training and authorised to use. • Provide workers with appropriate personal protection equipment and ensure they are correctly used and maintained as required. • Ensure a Safe Work Method Statement (SWMS) is conducted (TEM-00013) and identified controls are implemented prior to commencing any task that involves the use of plant.

Role	Responsibility
Maintenance Coordinator	• Ensure, so far as is reasonably practicable, that all statutory plant at workplaces within their area of responsibility is recorded in CIS. • Implement strategies to make sure that all required maintenance, inspection, testing and calibration is undertaken on statutory plant at workplaces within their area of responsibility.
Managers	• Provide resources to identify and manage hazards associated with the safe use of plant. • Provide communication, supervision, instruction, and access to training in the safe use of plant. • Include plant located at their workplaces in Site Hazard Register risk register. • Ensure workers within their areas of responsibility only use items of plant they are training and authorised to use.
Operational Maintenance Planner	• Develop and implement a calibration and maintenance program for monitoring and measurement equipment. • Implement strategies to make sure that all registrable plant is registered in accordance with the requirements of the *Work Health and Safety Regulation 2011* (Qld).
Tactical Maintenance Planner	• Develop and implement a maintenance, inspection and testing program for statutory plant to meet regulatory requirements • Implement strategies to make sure that registrable plant is registered in accordance with the requirements of the *Work Health and Safety Regulation 2011* (Qld).
Workers	• Only use items of plant they are trained and authorized to use. • Follow any instructions in relation to the safe use of plant. • Conduct a SWMS and implement risk control measures prior to commencing any task that involves the use of plant. • Wear and maintain Personal Protective Equipment (PPE). • Comply with PPE signage requirements. • Undertake relevant training when required. • Report hazards, risks or incidents in relation to plant to their line supervisor and record them in Protecht..

8. References and Related Materials

8.1. Legislation and other requirements

Description
Work Health and Safety Act 2011 (Qld)
Work Health and Safety Regulation 2011 (Qld)
Managing the risks of plant in the workplace Code of Practice 2021
AS 4343 Pressure equipment – levels
AS/NZS 1200 Pressure equipment
AS1735.1 Lifts, escalators and moving walks—General requirements
AS/NZS 3000 - Electrical Installations

8.2. Supporting documents

Description	Location
FRM-00624 Plant Procurement Safety Checklist	REX
FRM-00638 HSW Verification of Competency (VOC) Assessment Form	REX
GDE-00322 Standard Operating Procedure (SOP) Development Guideline	REX
PRO-00014 Energy Tag and Lockout Procedure	REX
PRO-00304 Noise Management Procedure	REX
PRO-00657 Hazard Identification and Risk Management Procedure	REX
PRO-01864 Fleet and Mobile Plant Policy and Procedure	REX
PRO-02234 Management of Change (Technical) Procedure	REX
PRO-02605 Learning Governance and System Procedure	REX
TEM-00013 Safe Work Method Statement (SWMS) Template	REX
TEM-00077 Isolation Instruction Template	REX

Appendix A – High-risk work licences

High-risk work licence	Description of class of high-risk work
Basic scaffolding	Scaffolding work involving any of the following: • modular or prefabricated scaffolds • cantilevered materials hoists with a maximum working load of 500 kilograms • ropes • gin wheels • safety nets and static lines, and • bracket scaffolds (tank and formwork).
Intermediate scaffolding	Scaffolding work involving any of the following: • cantilevered crane loading platforms • cantilevered scaffolds • spur scaffolds • barrow ramps and sloping platforms • scaffolding associated with perimeter safety screens and shutters • mast climbing work platforms, and • tube and coupler scaffolds (including tube and coupler covered ways and gantries).
Advanced scaffolding	Scaffolding work involving any of the following: • cantilevered hoists • hung scaffolds, including scaffolds hung from tubes, wire ropes or chains, and suspended scaffolds.
Basic Rigging	Rigging work involving any of the following: • structural steel erection • hoists • pre cast concrete members of a structure • safety nets and static lines • mast climbing work platforms • perimeter safety screens and shutters, and • cantilevered crane loading platforms.
Intermediate Rigging	Rigging work involving any of the following: • hoists with jibs and self-climbing • hoists • cranes, conveyors, dredges and excavators • tilt slabs • demolition of structures or plant, and • dual lifts.

High-risk work licence	Description of class of high-risk work
Advanced Rigging	Rigging work involving any of the following: • gin poles and shear legs • flying foxes and cable ways • guyed derricks and structures, and 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: • controlled from a permanent cabin or control station on the crane, or 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 three 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.
Slewing mobile crane – with a capacity up to 60 tonnes	Use of a slewing mobile crane with a capacity of 60 tonnes or less.
Slewing mobile crane – with a capacity up to 100 tonnes	Use of a slewing mobile crane with a capacity of 100 tonnes or less.
Slewing mobile crane – with a capacity over 100 tonnes	Use of a slewing mobile crane with a capacity exceeding 100 tonnes.
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 stacker	Operation of a reach stacker greater than three 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.

High-risk work licence	Description of class of high-risk work
Turbine operation	Operation of a turbine that has an output of 500 kilowatts or more and: • is multi wheeled • is capable of a speed greater than 3600 revolutions per minute • has attached condensers, or has a multi staged heat exchange extraction process.
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: • multiple fuel sources • pre-heater • superheater, and • economiser.
Reciprocating steam engine	Operation of a reciprocating steam engine where the diameter of any piston exceeds 250 millimetres

Appendix B – High risk plant and equipment tagging and identification matrix

Risks	Key Elements	Registrable Plant (Yes / No)	Inspection Frequency (As a minimum)	Tag / Identification / Sticker	Record Keeping	Responsibility
Lifts	Operational Lifts (passenger & goods)	Yes	Annually	N/A	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Office Lifts	Yes	Annually	N/A	Service Dockit onsite and saved in TRIM	Facility Officer
Crane and lifting equipment	Cranes	No (No cranes that Seqwater own)	Annually	Tag or sticker on the PIP	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Winches, Blocks and Hoists	No	12 monthly	Unique ID number, Tag or Sticker required following inspection.	Equipment Register, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Davit Base, Davit Structure, Davit Arm (portable and fixed)	No	12 monthly	Unique ID number, Tag or sticker required following inspection	Equipment Register, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Shackles, hooks	No	12 monthly	Tag or sticker required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Flat Webbing and Round Synthetic Slings	No	3 monthly	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Chain and Wire Rope Slings	No	12 monthly	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
Pressure Vessels	Pressure vessels	Yes	Based on Hazard Level: External: 2 yearly Internal: 4 yearly	Unique ID number	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator

Risks	Key Elements	Registrable Plant (Yes / No)	Inspection Frequency (As a minimum)	Tag / Identification / Sticker	Record Keeping	Responsibility
	Safety Relief Valve and pressure gauge	No (must be consider as part of the equipment to which it is attached)	2 yearly	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Gas Cylinder – Regulator, Flashback Arrestor	No	Annually	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Gas Cylinder – Gas Bottle	No	10 years	Marked on the gas bottle	Service Dockit onsite and saved in CIS with the work order	Gas Cylinder Owner
Fleet and Vessels	Vehicle	No	Annually	Registration certificate	Service Dockit	Fleet Manager
	Forklifts	No	Annually	Registration certificate and Compliance Sticker	Service Dockit	Fleet Manager
	Vessels (boats)	No	Annually	Registration certificate	Service Dockit	Vessel Management Coordinator
Fall Protection System	Harness	No	6 monthly	Unique ID number	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Lanyard	No	6 monthly	Unique ID number	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Permanent anchors and static lines	No	12 monthly	Tag required following inspection Information plate fixed to a suitable base near the item	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Confined Space Entry Tripods	No	6 monthly	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Confined Space Entry Retrieval Systems	No	6 monthly	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator

Risks	Key Elements	Registrable Plant (Yes / No)	Inspection Frequency (As a minimum)	Tag / Identification / Sticker	Record Keeping	Responsibility
Electrical Safety	Electrical Equipment Testing and Tagging	No	Various	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	RCDs	No	Various	Tag required following inspection	RCD Log book, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
Fire & emergency	Illuminated exit signs	No	6 monthly	N/A	Log book, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Emergency Lighting	No	6 monthly	N/A	Log book, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Fire Extinguisher	No	12 monthly	Tag required following inspection	Log book, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Fire Hose Reel	No	12 monthly	Tag required following inspection	Log book, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Fire Hydrant	No	12 monthly	Tag required following inspection	Log book, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Fire Blanket	No	12 monthly	Tag required following inspection	Log book, Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Fire Detection and Alarm System	No	12 monthly	N/A	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Emergency warning and intercommunication system	No	Monthly	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer

Risks	Key Elements	Registrable Plant (Yes / No)	Inspection Frequency (As a minimum)	Tag / Identification / Sticker	Record Keeping	Responsibility
	Gas Spill detection – Gas Detector for Chlorine Gas, Ammonia, Ozone etc.	No	Various	N/A	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Auto Shut off system	No	Annually	N/A	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Spill kits	No	Various	Tag required following inspection	N/A	Maintenance Coordinator
	Safety Shower and Eye Wash Station	No	Annually	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	First Aid Kit	No	Annually	Tagging required following services	N/A	Designate First Aid Officer
PPE	Breath Apparatus (BAs)	No	Annually	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Self-contained breathing apparatus (SCBA)	No	Annually	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Powered Air Purifying Respirator (PAPR)	No	Annually	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator
	Personal Floating Device (PFD)	No	Annually	Tag required following inspection	Service Dockit onsite and saved in CIS with the work order	Vessel Management Coordinator
	Portable Gas Detectors	No	6 monthly	Tag required following inspection / calibration	Service Dockit onsite and saved in CIS with the work order	Maintenance Coordinator

Appendix C – Registrable plant

List of plant items requiring registration in accordance with Schedule 5 (Part 2) of the *Work Health and Safety Regulation 2011* (Qld)

- Boilers categorised as hazard level A, B or C according to criteria in Section 2.1 of AS 4343 - Pressure equipment - hazard levels
- Pressure vessels categorised as hazard level A, B or C according to the criteria in Section 2.1 of AS 4343Pressure equipment - hazard levels, except for gas cylinders; LP Gas fuel vessels for automotive use, and serially produced vessels
- Tower cranes including self-erecting tower cranes
- Lifts including escalators and moving walkways
- Building maintenance units
- Concrete placing booms
- Mobile cranes with a rated capacity of greater than 10 tonne.

Note: The plant listed as requiring item registration does not include:

- any pressure equipment-other than a gas cylinder-excluded from the scope of *AS/NZS 1200 - Pressure equipment* – see section A1 of Appendix A to AS/NZS 1200
- a crane or hoist that is manually powered
- a reach stacker
- lifts installed in a private residence within the meaning of *AS1735.1 Lifts, escalators and moving walks*—General requirements
- Amusement devices classified by section 2.1 of AS 3533.1:2009 (Amusement rides and devices—Design and construction), except devices and structures stated in section 2(2) of Schedule 5 of the *Work Health and Safety Regulation 2011 (Qld)*.