

Procedure

Workplace Health and Safety

Safe Work with Plant

Document number: PRO-00867

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1. Purpose

Seqwater is committed to the health and safety of all people at the workplace. The purpose of this procedure is to promote the safe use of plant at Seqwater workplaces.

This procedure supports the requirements described in Element 9 – Operational control of Seqwater’s Work Health and Safety (WHS) Management System Framework.

This procedure adopts and is consistent with the requirements outlined in:

- *Work Health and Safety Act 2011 (Qld)*
- *Work Health and Safety Regulation 2011 (Qld)*
- *Managing risks of plant in the workplace – Code of Practice 2013 (Qld).*

2. Scope

This procedure applies to all Seqwater workers, business groups and work activities.

3. Roles and responsibilities

Role	Responsibilities
Managers	<ul style="list-style-type: none"> • 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 the site WHS risk register.
Line Supervisors	<ul style="list-style-type: none"> • Assess and manage hazards associated with the safe use of plant in consultation with workers and/or health and safety representatives. • Implement and regularly review controls to mitigate the risks of working with plant. • Provide workers with appropriate personal protection equipment and ensure they are correctly used and maintained as required. • Ensure a Job Safety and Environment Analysis (JSEA)/Safe Work Method Statement (SWMS) is conducted and identified controls are implemented prior to commencing any task that involves the use of plant.
Maintenance Coordinator	<ul style="list-style-type: none"> • 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

Role	Responsibilities
	undertaken on statutory plant at workplaces within their area of responsibility.
Tactical Maintenance Planner	<ul style="list-style-type: none"> 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 <i>Work Health and Safety Regulation 2011</i> (Qld).
Operational Maintenance Planner	<ul style="list-style-type: none"> 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 <i>Work Health and Safety Regulation 2011</i> (Qld).
WHS Team	<ul style="list-style-type: none"> Provide advice, support and consultation on the hazards of working with the safe use of plant, including identification and implement of risk controls.
Workers	<ul style="list-style-type: none"> Follow any instructions in relation to the safe use of plant. Conduct a JSEA/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 WHS training when required. Report hazards, risks or incidents in relation to plant to the Seqwater Incident Hotline (07) 3270 4040 and their line supervisor.

4. Procedure

4.1 Managing plant at Seqwater workplaces

The diverse nature of Seqwater workplaces introduces significant complexity into 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 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.

4.1.1 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.

4.1.2 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 legislation and 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.

4.2 Plant safety

There are significant risks associated with using plant. Severe injuries can result from the unsafe use of plant including:

- limbs amputated by unguarded moving parts of machines
- being crushed by mobile plant
- sustaining fractures from falls while accessing, operating or maintaining plant
- electric shock from plant that is not adequately protected or isolated
- hearing loss from operating noisy plant without using appropriate hearing protection
- injuries as a result of vibration
- burns or scalds due to contact with hot surfaces, or exposure to flames or hot fluids.

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

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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 inherent risks associated with the identified plant.
3. Identify and implement risk control measures.
4. Assess the residual risks associated with these hazards following the implementation of the risk control measures.
5. Review risk control measures.

All risk assessment activities must be undertaken in accordance with the WHS 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.

It is important that workers who will be required to operate and/or maintain an item of plant are consulted as early as possible when planning to introduce new plant or change the way plant is used.

This information must be incorporated into the plant risk assessment for the item of plant (refer to section 4.3.3 for information relating to the development of plant risk assessments). Plant risk assessments must be readily available to all workers operating, maintaining, repairing or inspecting the plant.

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.

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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.

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 or when directed by the WHS Team. 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 risk register.

Plant inspections involve observing how plant is used in the workplace and discussing with workers 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

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- 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.

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 from the WHS Team and from the worker responsible for the operation and/or maintenance of the plant. 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.

4.3.3 Plant risk assessment

Where plant is operated or maintained by Seqwater workers, the WHS Team, in collaboration with workers responsible for operating and/or maintaining the item of plant, must undertake a risk assessment of the plant. Plant risk assessments 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 in relation to the item of plant or when directed by the WHS Team.

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)

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- 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 using the Plant Safety Risk Assessment Form ([FRM-00623](#)) and must be made available to managers, health and safety representatives, workers and relevant regulators on request.

Where practicable, the WHS Team should apply the findings of plant risk assessment to similar plant used in similar situations at Seqwater workplaces.

The WHS Team must facilitate the review of a plant risk assessment in the following circumstances:

- when there are significant changes to the work environment, plant and/or equipment
- where there are significant changes to work processes which might result in changes to noise emission or exposure
- at the request of a health and safety representative.

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 WHS 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 hierarchy of controls ranks the methods of controlling the risk from the highest level of protection and reliability to the lowest so that the most effective controls are considered first.

The effective control of risks for plant may involve a single risk control measure or a combination of two or more different risk controls.

The most effective risk control measure is to eliminate plant completely from the workplace. Given the reliance on plant to undertake work at Seqwater workplaces,

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eliminating the need to operate plant is generally not practicable and other risk control methods need to be implemented.

Administrative controls and PPE, when used on their own, tend to be the least effective in minimising risks because they rely on human behaviour and supervision.

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.
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 / JSEA/SWMSs 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.

When assessing the most appropriate risk control measures for plant, the following risk control measures must be considered:

- safe work methods
- guarding
- operational controls
- emergency stops
- warning devices
- processes for isolating sources of energy.

Specific requirements for each of the above risk control measures are identified in the *Managing risks of plant in the workplace – Code of Practice 2013 (Qld)*.

In addition, reference should be made to the *Work Health and Safety Regulation 2011 (Qld)* for specific risk controls required for items of registrable plant, such as lifts.

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
- earthmoving equipment
- 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

As a general rule, unsafe plant is prohibited at any Seqwater workplace. From time to time Seqwater may advise (via notifications) of items of plant which are prohibited. If such a notification is made then that item is expressly prohibited.

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 4.4.1 to 4.4.13 below.

4.4.1 Purchasing and hiring plant

Many injuries associated with plant occur due to a failure to select the correct plant for the work activity being undertaken. 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](#)).

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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

Positioning plant (fixed plant)

When determining the optimum 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 WHS Noise Management Procedure ([PRO-00304](#)).

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

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- 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 3000 (also known as the Australian/New Zealand Wiring Rules) to the extent it is relevant.

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
- WHS 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 Instruction, training and supervision

Before any 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 provide all workers and other persons who will use the plant with all information, training, instruction or supervision that is necessary to inform them of the risks and controls associated with the use of the plant.

All instruction, training and supervision must be undertaken in accordance with the Training and Competency Management Procedure ([PRO-01574](#)).

The worker (or third party) responsible for the operation and/or maintenance of an item of plant must also provide safety information to persons who are involved in

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installing, commissioning, testing, maintaining or repairing plant, as well as decommissioning, dismantling or disposing of plant. This information should include the types of hazards and risks the plant may pose to the person when they are carrying out these activities, and the risk control measures to be implemented.

Plant safety information may be supported with safe work procedures that include instructions on:

- the correct use of guarding, PPE 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.

Any emergency instructions relating to an item of plant should be clearly displayed on or near it.

Training programs for plant should be practical and 'hands on' and take into account the particular needs of workers, for example literacy levels, work experience and specific skills required for safe use of the plant.

Managers and supervisors must take action to correct any unsafe work practices associated with plant as soon as the unsafe practices are identified.

4.4.4 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 to:

- verify that fabrication and operation of plant comply with design specifications
- identify potential problems that were not anticipated during plant design or task analysis
- verify that the plant is safe and fit for service under the specified operating conditions until the next planned inspection
- identify deficiencies in plant or the equipment associated with use of plant – for example, wear and tear, corrosion and damaged plant parts
- verify that maintenance, repairs, and alterations are carried out in a manner which maintains the integrity of the plant
- indicate where repairs, replacements or alterations may be needed and assess remaining safe life of the pressure equipment
- identify unsafe work practices associated with the use of plant
- identify and rectify inadequacies in risk control measures that have been previously implemented.

Plant inspections, testing and calibration must be undertaken in accordance with the relevant standard. A list of standards applicable to plant is included in Appendix A of this procedure.

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Reasonably practicable control measures must be implemented to ensure the health and safety of a worker conducting an inspection, test and/or calibration, by ensuring that:

- plant is switched off or isolated from the power source to avoid accidental powering of dangerous parts (and tagged out in accordance with the Energy Tag and Lockout Procedure ([PRO-00014](#)))
- any guards that are removed are replaced correctly to prevent access to the hazardous part of the plant when it is returned to use.

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.

For each item of plant, the following information must be documented (where relevant):

- allocated responsibilities for people dealing with inspection, testing and/or calibration activities
- standards against which plant should be inspected, tested and/or calibrated
- the frequency of inspections, tests and/or calibrations
- critical safety instructions to be followed during the inspection, test and/or calibrations (e.g. isolation procedure)
- the procedures for particular types of inspections, tests and/or calibrations, including:
 - periodic inspections
 - specific tests and/or calibrations
 - repaired or modified plant
 - any variations from normal operation or dangerous occurrences and any trends that may be occurring.

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. The schedule must identify:

- the methods to be used
- any specific preparation requirements
- safety requirements
- any other relevant matters.

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

The extent and frequency of inspection, test and calibration elements must be sufficient to provide a high level of assurance that the integrity of the plant is adequate. Applicable standards for each type of plant must be considered by the relevant Tactical Maintenance Planner or Operational Maintenance Planner to determine the inspection, test and/or calibration requirements for specific types of plant.

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A matrix of plant inspection requirements is included in Appendix B of this document.

There may be some overlap in inspection, testing and calibration schedules e.g. at an initial inspection of an item of plant, the fabrication inspection may be supplemented by a visual inspection to check for any damage during transit or installation, plus any required initial calibration of the plant.

Workers performing inspections, testing and/or calibration shall make use of personal experience, information from plant records and information from other relevant sources when undertaking their responsibilities to maintain or utilise plant.

Plant inspections shall be performed while the plant is operational to detect signs of deterioration, damage or evidence that suggests damage or deterioration may exist, e.g. leaks, vibration, settlement, piping movement, adequate performance of piping supports, etc.

Any inspections or testing required to assess the integrity of plant shall include a review of the risk controls and safety systems in accordance with the applicable standards. Refer to Appendix A for further information on applicable standards.

Responsibilities and capabilities

The worker (or third party) responsible for the operation and/or maintenance of an item of plant must ensure that any workers involved in plant inspections, testing and calibration of the item of plant are experienced, competent, trained, instructed, equipped and where required, hold the appropriate licence for the particular activity that they will be performing.

The responsible worker (or third party) must review applicable standards for each type of plant to determine the competency requirements for persons undertaking inspections, testing and calibrations.

Workers (or third parties) undertaking inspections, tests and/or calibrations must:

- perform and record inspections, tests and calibrations in accordance with the applicable standards
- act only within areas of competency
- undertake inspections, tests and calibrations in a safe manner
- verify, as far as practicable, that the equipment meets the requirements of either:
 - the specified standards designated by the original design code
 - the standards specified for any re-rating or modifications.
- ensure that appropriate methods of inspection, including non-destructive testing, are undertaken by competent workers
- identify any remedial work required to be undertaken in the interests of safety
- issue a certificate of inspection and report to the owner in accordance with the applicable standards.

Seqwater workers or third parties carrying out support activities such as design, design verification, testing, examining and measuring (e.g. non-destructive examination, mechanical tests and chemical analysis), assessment of fitness for service, maintenance and repair, or heat treatment must comply with the applicable specifications and standards.

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Monitoring and measurement equipment used for inspections, testing and calibrations

There are a range of hazards at Seqwater workplaces that may require specialised equipment to monitor the effectiveness of risk controls that have been implemented. This equipment may either be:

- portable – to measure levels at multiple workplaces as required
- permanently installed – to continuously measure levels at a single workplace.

The WHS operational control procedures provides specific guidance on the types of equipment that is required to measure levels of specific hazards.

Any requirement to use monitoring and measurement equipment at a workplace must be recorded as a risk control in the relevant site WHS risk register.

Managers must ensure that any workers utilising monitoring and measurement equipment within their area of responsibility have received appropriate training in the use of the equipment as recommended by the relevant WHS operational control procedure or manufacturer's instructions. Managers must also ensure that any portable equipment utilised within their area of responsibility is appropriately maintained, calibrated and stored in accordance with the manufacturer's instructions.

Calibration and maintenance of monitoring and measurement equipment used for inspections, testing and calibration

Managers must ensure that monitoring and measurement equipment used in their area of responsibility is calibrated and maintained at a frequency consistent with manufacturers' recommendations and legislative requirements, or at least every 12 months if those requirements are not specified.

In addition, where there is specific equipment or tools that are used for ongoing monitoring of hazards (e.g. chlorine gas monitors) these may also need to be checked during inspections to ensure they are being adequately maintained, calibrated and stored. These requirements must be included in WHS inspection checklists as required. Refer to the WHS Inspections Procedure ([PRO-00013](#)) for additional information.

The Tactical Maintenance Team is responsible for developing a schedule in CIS for the calibration and maintenance of monitoring and measurement equipment.

Response to inspections of plant

The findings of plant inspections must be assessed by an appropriately qualified and experienced worker who will issue a certificate of inspection and a report to the relevant maintenance coordinator. The inspection report must include the following:

- a summary of the inspections undertaken, the inspection methods used and the findings
- detailed inspection reports for all inspections carried out
- the criteria for assessment of the inspection findings
- the results of the assessment of the inspection findings
- the recommended intervals to the next external and internal inspections

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- special comments, e.g. defect monitoring requirements, recommended future inspections, recommended repairs, or recommended changes to current operating practices and parameters.

Should defects be found, the plant must be removed from service and the continued fitness for service of the plant must be assessed.

Defective plant must not be returned to service until repairs have been made and a subsequent inspection is undertaken which confirms that the plant is safe to be returned to service.

Where plant emissions are detected that are outside of accepted safe exposure levels, the manager responsible for the workplace must be immediately notified and a review of the risk controls undertaken. If the levels are placing the health and safety of workers at immediate risk, then the manager must ensure that the area is isolated and that notification is made to Seqwater's Incident Hotline (07) 3270 4040. Refer to the WHS Hazard Identification and Risk Management Procedure ([PRO-00657](#)) for further information.

4.4.5 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-help 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.

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, Mobile Plant and Private Use Procedure (PRO-00872) for further information on requirements for the safe use of vehicles and mobile plant.

4.4.6 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.

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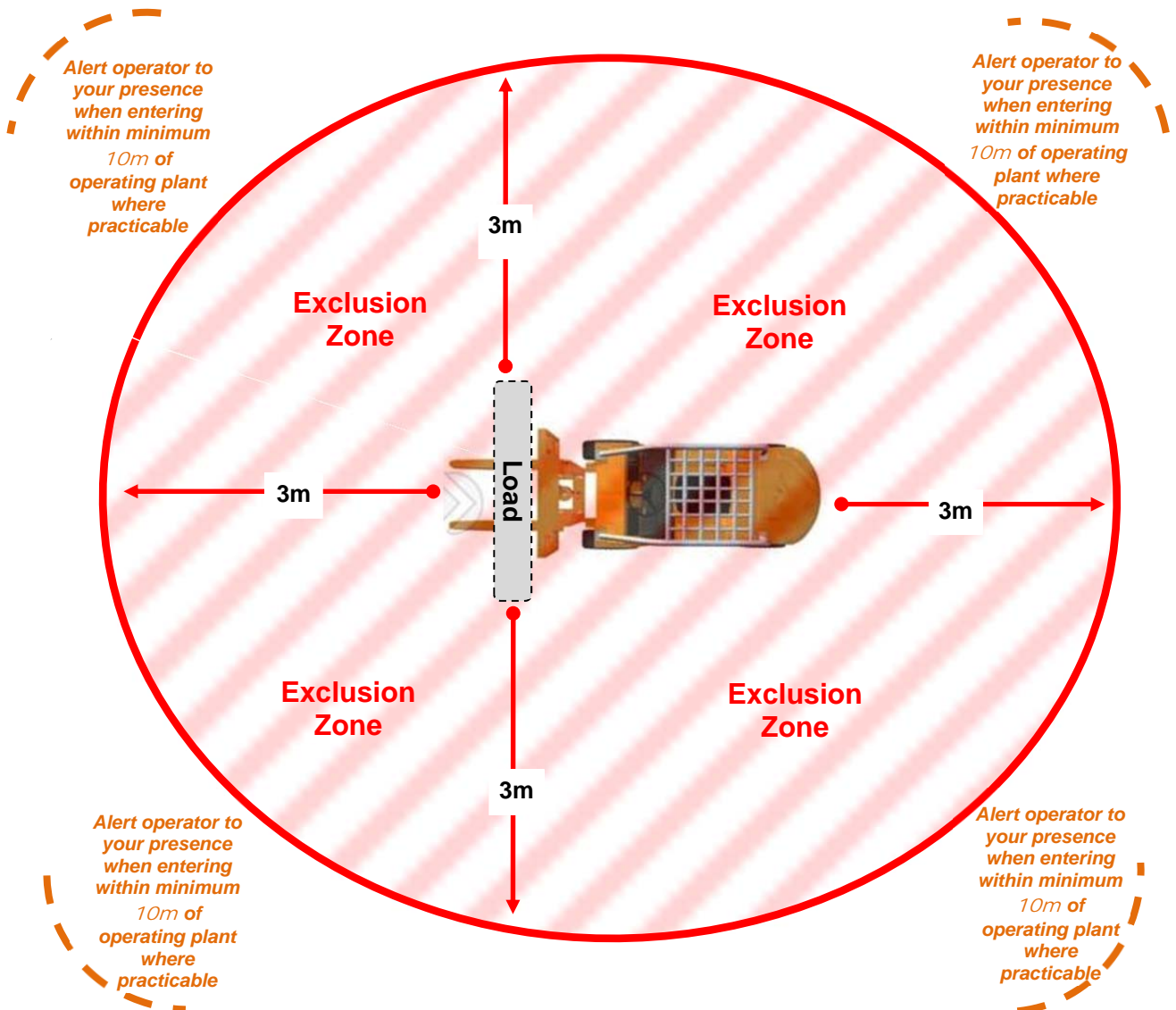
hire company requirements). Where practicable, the details of the pre-start checks should be recorded in the plant logbook.

4.4.7 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 C of this procedure.

4.4.8 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 360° arc around the machine extending from the machine or any protruding load. The following diagram provides further guidance on this requirement.



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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:

- 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
- the plant operator must cease or restrict operation to prevent accidental contact with the person.

4.4.9 Faulty or unsafe plant

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

1. Identify hazard and cease operating plant

Where an item of plant or equipment is identified as being unsafe or faulty, the worker must cease operating the plant or equipment immediately.

2. Affix an out-of-service tag (where appropriate)

The worker who identified the unsafe or faulty plant must obtain, complete and affix an out-of-service tag to the item of plant or equipment in accordance with the Energy Tag Out and Lockout Procedure ([PRO-00014](#)). The out-of-service tag must be affixed in a position that is clearly visible to anyone who could operate the plant.

The worker who identified the unsafe or faulty plant must notify their line supervisor or manager to arrange for repairs to be carried out.

3. 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.

An example of where access restrictions should be used is where a piece of playground equipment is vandalised and poses a risk to members of the public.

4. Arrange for maintenance

The worker, line supervisor or manager must arrange for repair, maintenance or replacement of the unsafe or faulty plant.

Plant which has an out-of-service tag attached, or is barricaded to restrict access, must not be operated unless except by an authorised or licensed person solely for the purpose of maintenance, testing or repairing the plant.

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4.4.10 Cleaning, maintaining and repairing plant

Plant should be serviced and repaired according to the manufacturer's requirements. Maintenance can be conducted in several distinct ways, as follows:

- **Scheduled / Planned Maintenance** – Maintenance and servicing carried out at predetermined intervals and with planned criteria and actions. A scheduled maintenance routine, usually activated by time, kilometres, work hours, etc.

The Tactical Maintenance Team is responsible for developing a maintenance schedule in CIS for all items of plant that require maintenance. Based on the maintenance schedule developed, CIS will generate a work order for the maintenance required on an item of plant.

- **Unplanned Maintenance** – Unplanned or reactive maintenance includes plant breakdowns, issues with plant operation and minor repairs necessary to prevent any further deterioration of plant condition. A risk assessment must be carried out to determine if it is necessary to remove the plant from service until maintenance or repairs are completed.

Following completion of unplanned or reactive maintenance, a work order shall be created which includes information about the maintenance undertaken.

- **Cleaning plant** – Workers using or operating plant must regularly clean plant to remove any accumulation of dirt, grease and oil and plant materials.

Any cleaning activities involving the removal of oil or grease from plant must be undertaken in a location with suitable waste collection facilities.

Plant materials accumulated on mowing or other vegetation management equipment must be cleaned from the item of plant before it is removed from the area where it is used to manage the spread of weeds and plant diseases.

Isolating fixed plant

Before any maintenance activity is undertaken on an item of fixed plant, appropriate risk control measures must be implemented. The following critical risk control processes must be implemented to ensure that maintenance activities are undertaken safely:

- develop a JSEA/SWMS for the activity to be undertaken in accordance with the Hazard Identification and Risk Assessment Procedure ([PRO-00657](#))
- develop an isolation instruction for the activity to be undertaken in accordance with the Isolation Instruction Template ([TEM-00077](#))
- obtain site access (where required) for the activity to be undertaken in accordance with the Permit Access Safety System Procedure (PRO-01820)()
- undertake the isolation for the activity to be undertaken in accordance with the Energy Tag and Lockout Procedure ([PRO-00014](#)).

Isolating mobile or portable plant

Before any maintenance activity is undertaken on an item of mobile or portable plant, appropriate risk control measures must be implemented to ensure the safety of the worker undertaking the work. The risk controls must be documented in a JSEA/SWMS for the activity to be undertaken in accordance with the Hazard Identification and Risk Assessment Procedure ([PRO-00657](#)).

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4.4.11 Plant incidents, damage or theft

A worker shall report all incidents involving plant to their line supervisor or manager and the Incident Hotline as per the Incident Notification Procedure ([PRO-00388](#)).

Plant damage or theft must be immediately reported to the relevant line supervisor or manager and Seqwater's Incident Hotline (07) 3270 4040. These occurrences may require further investigation by Police, Insurance Companies or others, depending on the circumstances.

4.4.12 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.

4.4.13 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.

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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 4.7.5 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.

4.4.14 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.

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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 monitored and reviewed to ensure they remain effective.

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.

The process used for the initial risk assessment (section 4.3 of this document) must be used when reviewing existing risk control measures.

When undertaking a review of the plant risk controls, workers involved in operating and maintaining the plant must be consulted to confirm the following:

- are the relevant workers aware of the control measures and do they understand them
- are the risk control measures working effectively in both their design and operation, e.g. plant guards
- have all hazards associated with the plant been identified
- has the purchase of a new item of plant made the job safer
- are safety procedures being followed
- has an incident occurred in relation to the plant
- if new legislation, technology or information becomes available, does it indicate current controls may no longer be the most effective?

When deciding how frequently to review risk controls, consideration must be given to:

- the level of risk (high risk plant may need more frequent review)
- the type of plant involved (there may be particular stages in the life of the plant where a more frequent review is needed).

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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 D of this procedure.

Any piece of plant listed in Appendix D 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 E 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.

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:

1. 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)

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2. 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).
3. 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.
4. 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.

4.7.3 Plant registration duration and renewal

Registration of an item of plant is valid for five years and takes effect on the day the registration is granted and expires five years after that date. Registration must be renewed annually.

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.

4.7.4 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:

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- 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.

4.7.5 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 registered.

Refer to the Engineering Change Management Procedure (PRO-00867) for further information.

5. Training requirements

Training will be provided in accordance with the Training and Competency Management Procedure ([PRO-01574](#)).

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 that is necessary to protect them from risks arising from the use of plant.

In line with this, line supervisors and managers must ensure that safe work procedures are developed that include instructions on:

- the use of guarding and other control measures
- how to safely access and operate plant
- who may use an item of plant, for example only authorised or licensed operators
- how to carry out inspections, cleaning, repair, maintenance and shut-down, and
- emergency procedures.

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.

6. Monitoring and audit

The application of this procedure shall be audited in accordance with the WHS Internal Audit Schedule and the Integrated Management System Internal Audit Procedure ([PRO-00002](#)).

Audit and inspection findings will be reviewed at meetings of the Regional WHS Improvement Committees (RWHSIC) and the WHS Steering Committee (WHSSC)

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and presented for Management Review to the Executive Leadership Team and the Seqwater Board in accordance with the WHS Reporting Procedure ([PRO-01605](#)).

7. Record keeping

All records are to be retained, archived and disposed of in accordance with the *Queensland State Archives General Retention and Disposal Schedule for Administrative Records*.

8. References

8.1 Legislation and other requirements

Description	Status	Location
<i>Queensland State Archives General Retention and Disposal Schedule for Administrative Records</i>	Active	www.archives.qld.gov.au/Recordkeeping/RetentionDisposal/Pages/GRDS.aspx
<i>Work Health and Safety Act 2011 (Qld)</i>	Active	www.legislation.qld.gov.au
<i>Work Health and Safety Regulation 2011 (Qld)</i>	Active	www.legislation.qld.gov.au
Various Standards as defined in Appendix A of this document.		

8.2 Supporting procedures

Description	Status	Location
MAN-00211 WHS Management System Framework	Active	Q-Pulse
PRO-00657 Hazard Identification and Risk Management Procedure	Active	Q-Pulse
PRO-01820 Permit Access Safety System Procedure	Active	Q-Pulse
PRO-00014 Energy Tag and Lockout Procedure	Active	Q-Pulse
PRO-00020 Health Monitoring and Immunisation Procedure	Active	Q-Pulse
PRO-00002 Integrated Management System Internal Audit Procedure	Active	Q-Pulse
PRO-01874 Engineering Review and Approval Procedure	Active	Q-Pulse
PRO-00304 Noise Management Procedure	Active	Q-Pulse
PRO-01605 WHS Reporting Procedure	Active	Q-Pulse

Description	Status	Location
PRO-01574 Training and, Competency Management Procedure	Active	Q-Pulse

8.3 Supporting documents, forms and templates

Description	Status	Location
Asset Creation Form (FRM-00171)	Active	Q-Pulse
Job Safety and Environment Analysis Template (TEM-00013)	Active	Q-Pulse
Risk Assessment Template (TEM-00008)	Active	Q-Pulse
Isolation Instruction Template (TEM-00077)	Active	Q-Pulse
Plant Procurement Safety Checklist (FRM-00624)	Active	Q-Pulse
Plant Risk Assessment Form (FRM-00623)	Active	Q-Pulse

9. Definitions

Term	Definitions
Cathodic Protection	<p>Cathodic protection is a technique to control the corrosion of a metal surface by making that surface the cathode of an electrochemical cell.</p> <p>Cathodic protection can be achieved in two ways:</p> <ul style="list-style-type: none"> by the use of galvanic (sacrificial) anodes (passive), or by 'impressed' current (active).
Competent Person	<p>Means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.</p> <p>A competent person has a more specific meaning in the following circumstances:</p> <ul style="list-style-type: none"> 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.
Hazard	A situation that has the potential to harm a person and/or the environment and/or damage property.
Hierarchy of controls	Identify the risk control actions and responsibilities by

Term	Definitions
	<p>identifying controls in the following specific order:</p> <ul style="list-style-type: none"> Eliminate the hazard. <p>If elimination of the hazard is not reasonably practicable, minimise the risk so far as reasonably practicable by:</p> <ul style="list-style-type: none"> substituting (wholly or partly) the hazard giving rise to the risk with something that gives rise to a lesser risk isolating the hazard from any person exposed to it implementing engineering controls. <p>If a risk then remains, then minimise the remaining risk, so far as is reasonably practicable, by implementing administrative controls.</p> <p>If a risk then remains, then minimise the remaining risk, so far as is reasonably practicable, by ensuring the provision and use of suitable Personal Protective Equipment (PPE).</p>
In-Service	The period during the life of plant from the beginning of commissioning until disposal.
Inspections	<p>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.</p> <p>NOTES:</p> <p>1 The above activities may require multiple parties.</p> <p>2 For inspection the 'competent person' should be the 'in-service inspector' or a person with equivalent qualifications and experience.</p>
Inspector	A person able to inspect pressure equipment for the purpose of establishing conformity with the specified requirements.
Job Safety and Environment Analysis (JSEA)	A step-by-step method of identifying hazards, evaluating the risk, implementing control measures and providing a safe system of work.
Line Supervisor	A Line Supervisor is a person with day-to-day supervisory responsibilities for workers within a functional area of the business. A Line Supervisor includes, but is not limited to, Team Leaders, Coordinators and Level 4 or 5 Supervisors. A Line Supervisor is also considered a worker, but has additional responsibilities for the implementation of the WHS Management System as identified in the WHS Management System and/or position description.
Manager	A person with the responsibilities for managing a functional area of the business including the workers within the relevant functional area. This includes, but is not limited to, Level 3 Managers, General Managers and Project Managers. A manager is also considered a worker, however managers may have additional responsibilities for implementation of the WHS Management System as well as any additional responsibilities as an officer of the business.
Plant	Includes any machinery, equipment, appliance, container, implement and tool, and includes any component or anything

Term	Definitions
	<p>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.</p> <p>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 <i>Work Health and Safety Regulation 2011</i> (Qld). The general duty of care under the <i>Work Health and Safety Act 2011</i> (Qld) applies to this type of plant.</p> <p>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.</p>
Pressure Equipment	<p>Equipment including boilers, pressure vessels, pressure piping, and pressurised storage tanks.</p> <p>Pressure equipment also includes ancillaries such as interconnected parts and components, valves, gauges and other fittings, headers, bolting, gaskets, supports and pressure-retaining accessories.</p> <p>Unless noted, it does not normally include items such as pumps, fans, and similar machinery.</p>
Pressure Vessel	Any vessel designed to be subjected to pressure, internally or externally.
Risk	Risk is the likelihood and consequence of injury or harm occurring when exposed to a hazard.
Risk control	Means taking action to eliminate health and safety risks so far as is reasonably practicable, and if that is not possible, minimising the risks so far as is reasonably practicable. Eliminating a hazard will also eliminate any risks associated with that hazard.
Statutory Plant	Any plant with a statutory requirement for inspection, testing and/or calibration, including any plant that requires registration in accordance with the <i>Work Health and Safety Regulation 2011</i> (Qld) or other relevant WHS legislation.
Structure	<p>Anything that is constructed, whether fixed or moveable, temporary or permanent, and includes:</p> <ul style="list-style-type: none"> • buildings, masts, towers, framework, pipelines, transport infrastructure and underground works (shafts and tunnels) • any component of a structure • part of a structure.
Training Needs Analysis (TNA)	The identification of all training needs required by workers at Seqwater.

Term	Definitions
Worker	<p>Worker means a person who carries out work in any capacity for Seqwater, including work as:</p> <ul style="list-style-type: none"> • an employee • a contractor or subcontractor • an employee of a contractor or subcontractor • an employee of a labour hire company who has been assigned to work at Seqwater • an outworker • an apprentice or trainee • a student gaining work experience • a volunteer • a worker of a prescribed class.
Workplace	<p>A place where work is carried out by Seqwater and includes any place where a worker goes, or is likely to be, while at work. This includes a vehicle, vessel or other mobile structure.</p>

Appendix A: Standards applicable to plant

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

Plant Description	Reference Number	Standard Title	Design	Make	Use
Cranes including hoists and winches	AS 1418 (Series)	<i>Cranes Including Hoists and Winches</i>	•	•	
	AS 4991 - 2004	<i>Lifting devices</i>	•	•	•
	AS 2550 (Series)	<i>Cranes – Safe use</i>			•
Conveyers	AS 1755 - 2000	<i>Conveyers - Safety requirements</i>	•	•	•
Electrical installation	AS 3000	<i>Electrical installation (known as the Aust/NZ wiring rules)</i>			•
Electrical installation within an industrial plant	AS/IEC 60204.1	<i>Safety of machinery: Electrical equipment of machines-General requirements</i>	•	•	
Earthmoving machinery	AS 2294.1	<i>Earthmoving machinery – Protective structures - General</i>	•	•	
	AS 2958.1	<i>Earthmoving Machinery – Safety – Wheeled machines-Brakes</i>	•	•	•
	ISO 6165	<i>Earthmoving machinery – Basic types – Identification and terms and definitions</i>	•		
	ISO 6746-1	<i>Earth-moving machinery - Definitions of dimensions and codes - Part 1: Base machine</i>	•		
	ISO 6746-2	<i>Earth-moving machinery - Definitions of dimensions and codes - Part 2: Equipment and attachments</i>	•		
	ISO 7133	<i>Earth-moving machinery - Tractor-scrappers – Terminology and commercial specifications</i>	•		
Explosive Powered tools	AS/NZS 1873 (Series)	<i>Power-actuated (PA) hand-held fastening tools.</i>	•	•	•
Hand-held electric tools	AS/NZS 60745	<i>Hand-held motor operated electric tools – Safety – General requirements</i>	•	•	•
Fall arrest	AS/NZS 1891.1	<i>Industrial fall-arrest systems and devices - Harnesses and ancillary equipment</i>	•	•	

Plant Description	Reference Number	Standard Title	Design	Make	Use
	AS/NZS 1891.4	<i>Industrial fall-arrest systems and devices - Selection, use and maintenance</i>			•
	BS EN 1263-1:2002	<i>Safety nets-Safety requirements, test methods</i>	•		
Gas cylinders	AS 2030.1-1999	<i>Gas cylinders-General requirements (known as SAA Gas Cylinders Code)</i>	•	•	
	AS 2337.2 - 2004	<i>Gas cylinder test stations</i>			•
	AS/NZS 3509	<i>LP (Liquefied Petroleum Gas) Fuel - Vessels for Automotive Use.</i>	•	•	
Industrial (Forklift) trucks	AS 2359 (Series)	<i>Powered industrial trucks</i>	•	•	•
Industrial rope access systems	AS 4488.2-1997	<i>Industrial rope access systems</i>	•	•	•
Lasers	AS/NZS 2211 (Series)	<i>Safety of laser products</i>	•	•	•
	AS 2397	<i>Safe use of lasers in the building and construction industry</i>			•
	AS/NZS IEC 60825.1: 2011	<i>Safety of laser products – Equipment classification and requirements</i>	•	•	•
Lifts	AS 1735 (Series)	<i>Lifts, escalators and moving walks (known as the SAA Lift Code)</i>	•	•	•
Machinery	AS 4024 (Series)	<i>Safety of machinery</i>	•	•	•
	AS 1657	<i>Fixed platforms, walkways, stairways and ladders-Design, construction and installation</i>	•	•	
	AS 1788.2 - 1987	<i>Abrasive wheels-Selection, care and use</i>	•	•	•
	AS 1893-1977	<i>Code of practice for the guarding and safe use of metal and paper cutting guillotines</i>	•	•	•
	AS 2661-1983	<i>Vapour degreasing plant – Design, installation and operation – Safety requirements</i>	•	•	•
	AS/NZS 3947.3:2001	<i>Low-voltage switchgear and control gear, switches, disconnectors, switch-disconnectors and fuse combination units</i>	•		•
	AS 61508.6 - 2011	<i>Functional safety of safety related systems</i>	•	•	•

Plant Description	Reference Number	Standard Title	Design	Make	Use
	AS/IEC 61511	<i>Functional safety – Safety instrumented system for the process industry sector</i>	•	•	•
	AS 62061	<i>Safety of machinery: Functional safety of safety-related electrical, electronic and programmable electronic control systems</i>	•	•	•
	ISO 13849.1	<i>Safety of machinery: Safety-related parts of control systems-General principles</i>	•	•	•
	BS/IEC 6496-2:1997	<i>Safety of machinery, Electro sensitive protective equipment</i>	•		•
	AS 1121.1:2007	<i>Agricultural tractor power take-offs - rear-mounted power take-off types 1, 2 and 3 - General specifications, safety requirements, dimensions for master shield and clearance zone</i>	•	•	
	AS 1636	<i>Agricultural wheeled tractors - Roll-over protective structures criteria and tests</i>	•	•	
	AS/NZS 2153.1:1997	<i>Tractors and machinery for agriculture and forestry - Technical means for ensuring safety - General</i>	•	•	
	SAE J167-2011	<i>Overhead protection for agricultural tractors - Test procedures and performance requirements</i>	•	•	
Miniature boilers	AMBSC Code –Part 1	<i>Copper Boilers - Issue 7-2001</i>	•	•	
	AMBSC Code –Part 2	<i>Steel Boilers – Issue 4-1995</i>	•	•	
	AMBSC Code - Part 3	<i>Sub-Miniature Boilers – Issue 1-2008</i>	•	•	
	AMBSC Code – Part 4	<i>Duplex Boilers – Issue 1-2010</i>	•	•	
Pressure equipment	AS/NZS 1200:2000	<i>Pressure Equipment</i>	•	•	•
	AS 2593:2004	<i>Boilers – Safety management and supervision systems</i>	•		•
	AS 2971:2007	<i>Serially produced pressure vessels</i>	•	•	
	AS/NZS 3788:2006	<i>Boiler and pressure vessels – In service inspection</i>			•
	AS 3873 :2001	<i>Boiler and pressure vessels – Operation and maintenance</i>			•
	AS 3920.1-1993	<i>Assurance of product quality – Pressure equipment manufacture</i>	•	•	

Plant Description	Reference Number	Standard Title	Design	Make	Use
	ASME I	Power boilers	•	•	
	ASME II	Materials	•	•	
	ASME V	Non-destructive examination	•	•	
	ASME VIII-1	Pressure vessels	•	•	
	ASME VIII- 2	Pressure vessels – alternative rules	•	•	
	ASME VIII-3	Alternative rules for construction of high pressure vessels	•	•	
	ASME IX	Welding and brazing qualifications	•	•	
	ANSI / NGV-2	Basic requirement of compressed natural gas vehicle fuel containers	•	•	
	CSA B51 Part 2	High pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles	•	•	
	ISO 11439:2000	High pressure cylinders for the on-board storage of natural gas as a fuel for automotive vehicles	•	•	
	ISO/EN 13458 (Series)	Cryogenic vessels – Static vacuum insulated vessels	•	•	•
Pressure piping	AS 4041-2006	Pressure piping	•	•	
Machinery guarding	AS 4024 (Series)	Safeguarding of machinery – general principles	•	•	•
	ISO 12100:2010	Safety of machinery – General principles for design	•	•	•
Scaffolding	AS/NZS 1576.1:2010	Scaffolding – general requirements	•	•	
	AS 1577-1993	Scaffold planks	•	•	
	AS/NZS 4576	Guidelines for scaffolding			•
Ladders	AS/NZS 1892.1/1892.2/1892.3	Portable ladders	•	•	
Spray painting	AS/NZS 4114.1	Spray painting booths. Part 1: Design, construction and testing	•	•	•
	AS/NZS 4114.2	Spray painting booths. Part 2: Installation and maintenance			•
Turbines	BS/EN 60593-2:1996	Rules for steam turbine acceptance tests	•		
	API 612	Special purpose steam turbines for refinery services	•		

Plant Description	Reference Number	Standard Title	Design	Make	Use
Ventilation	AS 1668.2	<i>The use of ventilation and air conditioning in buildings</i>	•	•	•
Work boxes- crane lifted	AS 1418.17 1996	<i>Cranes (including hoists and winches)</i>	•	•	
	AS 2550	<i>Cranes – Safe use</i>			•
	AS 3860- 1991	<i>Fixed guideway people movers</i>	•	•	•
	ISO 2374	<i>Lifting appliances – Range of maximum capacities for basic models</i>	•	•	

Key:

ANSI	American National Standards Institute
API	American Petroleum Institute
AMBSC	Australian Miniature Boiler Safety Committee
AS	Australian Standard
ASME	American Society of Mechanical Engineers
AS/NZS	Australian Standard / New Zealand Standard
BS	British Standard
CSA	Canadian Standards Association
EN	Europäische Norm (European Standard)
IEC	International Electrochemical Commission
ISO	International Standards Organisation
NZS	New Zealand Standards
SAE	Society of Automotive Engineers

Appendix B: Plant inspection matrix

Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Accum Int	Accumulator	Y02	<ul style="list-style-type: none"> AS NZS 3788:2006 – Pressure Equipment – In-Service Inspection AS 4343:2005 – Pressure Equipment – Hazard Levels AS 1210:1997 – Pressure Vessels 	
Accum Ext	Accumulator	Y04	<i>as above</i>	
Bld Air Hnd	Air Handling	M01	<ul style="list-style-type: none"> AS/NZS 3666.2:2002 - Air-handling and water systems of buildings - Microbial control - Operation and maintenance AS 1851-2005 — Maintenance of fire protection systems and equipment 	
Bld Air Hnd	Air Handling	M03	<i>as above</i>	
BA	Breathing Apparatus	M06	<ul style="list-style-type: none"> AS NZS 1715:2009 — Selection, use and maintenance of respiratory protective equipment AS NZS 1716 — Respiratory protective devices 	Inspection by a competent person complying to AS/2293.2 and Building Code of Australia for fire safety measures.
BA	Breathing Apparatus	Y01	<i>as above</i>	Inspection by a competent person complying to AS/2293.2 and Building Code of Australia for fire safety measures.
Crane	Cranes, Hoists And Winches	M03	<ul style="list-style-type: none"> AS 2550.1-2011 – Cranes, Hoists And Winches – Safe Use AS 2550.3:2002 – Cranes, Hoists And Winches – Safe Use, Part 3, Bridge Gantry, Portal And Jib Cranes 	

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Crane	Cranes, Hoists And Winches	Y01	<ul style="list-style-type: none"> • AS 2550.1-2011 – Cranes, Hoists And Winches – Safe Use • AS 2550.3:2002 – Cranes, Hoists And Winches – Safe Use, Part 3, Bridge Gantry, Portal And Jib Cranes 	
EST-Em Lgt	Lighting, Exit / Emergency	M06	<ul style="list-style-type: none"> • Electrical Safety Regulation 2002 • AS NZS 2293.1:2005 – Emergency escape lighting and exit signs for buildings Part 1: System design, installation and operation • AS NZS 2293.2:1995 – Emergency escape lighting and exit signs for buildings Part 2: Inspection and maintenance • AS NZS 3000:2007 – Wiring Rules 	Inspection by a competent person complying to AS/2293.2 and Building Code of Australia for fire safety measures.
EST-RCD	RCD	M06	<ul style="list-style-type: none"> • Electrical Safety Regulation 2002: Part 5 Division 5 • AS NZS 3190:2002 — Approval and test specification — Residual current devices (current operated earth-leakage devices) • AS NZS 3760:2010 – In service safety inspection and testing of electrical equipment • AS NZS 3000:2007 – Wiring Rules 	
EST-TT	Electrical Leads (Test and Tag)	M06	<ul style="list-style-type: none"> • Electrical Safety Regulation 2002: Part 5 Division 5 • AS NZS 3760:2010 – In service safety inspection and testing of electrical equipment • AS NZS 3000:2007 – Wiring Rules - AS NZS 3012:2010 - Electrical installations - Construction and demolition sites 	Inspection by a competent person complying to AS/NZS 3760 and 3012 requirements.
HV Transformer	Transformer, HV	Y01	AS 2467:2008 - Maintenance of electrical switchgear (page 19 for intervals)	Switchgear inspection and testing in accordance with the requirements of AS2467 Specialist Services

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Fire Port	Fire Blanket	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS1851-2005 and Building Code of Australia requirements
Fire Port	Fire Extinguisher	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS1851-2005 and Building Code of Australia requirements.
Fire Port	Fire Extinguisher	Y05	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS1851-2005 and Building Code of Australia requirements.
Fire Port	Fire Hose Reel	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/2293.2 and Building Code of Australia for fire safety measures.
Fire Hyd	Fire Hydrant	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	
Fire Hyd	Fire Hydrant	Y01	AS 1851-2005 — Maintenance of fire protection systems and equipment	
Fire Panel	Fire Indicator Panel	M01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Fire Panel	Fire Indicator Panel	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Panel	Fire Indicator Panel	Y01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Panel	Fire Indicator Panel	Y05	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det	Fire Protection, External	M01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det	Fire Protection, External	M03	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Fire Det	Fire Protection, External	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det	Fire Protection, External	Y01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det	Fire Suppression System	M01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det	Fire Suppression System	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det	Fire Suppression System	Y01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Fire Det	Fire Suppression System	Y05	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Pmp	Pump, Fire System Booster	M01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Pmp	Pump, Fire System Booster	M03	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Pmp	Pump, Fire System Booster	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Pmp	Pump, Fire System Booster	Y01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Fire Det Smk	Smoke / Heat Detector	M01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det Smk	Smoke / Heat Detector	M03	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment. Section 17
Fire Det Smk	Smoke / Heat Detector	M06	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det Smk	Smoke / Heat Detector	Y01	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.
Fire Det Smk	Smoke / Heat Detector	Y05	AS 1851-2005 — Maintenance of fire protection systems and equipment	Inspection by a competent person complying to AS/1851-2005 Maintenance of Fire Protection Systems and equipment.

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Amona Gas Det	Gas Detector, Ammonia	Y01	<ul style="list-style-type: none"> AS/NZS 2927 – The storage and handling of liquefied chlorine gas. AS/NZS 2022:2003 – Anhydrous ammonia – Storage and handling AS 2212-1979 – Elastomeric hose and hose assemblies for transferring anhydrous ammonia 	
Ewash Shower A	Shower, Safety	W01	AS 4775-2007 - Emergency eyewash and shower equipment	
Ewash Shower T	Shower, Safety	Y01	AS 4775-2007 - Emergency eyewash and shower equipment	
RPZ	Valve, RPZ	Y01	<ul style="list-style-type: none"> AS 3500.1.2003 Plumbing and Drainage Part One Water Services Section 4 AS 2845.3.2010 Water Supply backflow Prevention Devices Field Testing and maintenance of Testable Devices 	
Pallet Racking	Pallet Racking	Y01	• AS 4084 — Steel storage racking	
Scaffolding	Scaffolding	M01	AS/NZS 1576.1:2012 - Scaffolding - General requirements	
Oxy Acetylene	Oxy Hoses, Regs	M06	<ul style="list-style-type: none"> AS4839-2001 Table 1 — The safe use of portable and mobile oxy-fuel gas systems for welding, cutting, heating and allied processes AS4603-1999 Clause 3.3 — Flashback arresters — Safety devices for use with fuel gases and oxygen or compressed air AS4267-1995— Pressure regulators for use with industrial compressed gas cylinders AS1335-1995 — Hose and hose assemblies for welding, cutting and allied processes AS4326-2008 — The storage and handling of oxidising agents; 	

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Lifting Equip	Lifting Equipment <ul style="list-style-type: none"> Chain Blocks Dee-Shackles Wire Rope Wire Slings Shackle Bows Mobile Gantries Girdler Trolleys Eye Bolts Swivel Hook 	M06	<ul style="list-style-type: none"> Work Health and Safety Act 2011 Queensland Work Health and Safety Regulation 2011 Managing Risks of Plant in the Workplace Code of Practice 2013 AS 3777-2008 – Shank hooks and large eye hooks - Maximum 60 t AS 1666.1-2009 – Wire-rope slings - Product specification AS 1666.2-2009 – Wire-rope slings - Care and use 	
Lifting Equip	Lifting Equipment <ul style="list-style-type: none"> Flat Webbing Round Synthetic Slings 	M03	<ul style="list-style-type: none"> AS 3585-2008 – End fittings for synthetic flat-webbing and round slings AS 1353.1-1997 — Flat synthetic-webbing slings - Product specification AS 1353.2-1997 – Flat synthetic-webbing slings - Care and use AS 1380.1-1998 – Fibre-rope slings - Product specification AS 1380.2-1998 – Fibre-rope slings - Care and use AS 4497.1-1997 – Round Slings – Synthetic Fibre – Product Specification AS 4497.2-1997 – Round Slings – Synthetic Fibre – Care and Use 	

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Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Safety Equip	Safety Equipment <ul style="list-style-type: none"> • Micro-Clip Gas Detectors • Harnesses • Pole Strap • Anchor Strap • Lanyards • Droplines • Response Kits • Tie Off Adaptors • Ladsafe Sleeves • Tripods • Winches • Fall Arrestors • Multi-Rail Systems • Rope Recovery Units • Vertical Grabs • Stretchers • Spreader Bars • Moxham Rescue Master • Davits 	M06	<ul style="list-style-type: none"> • Work Health and Safety Act 2011 Queensland • Work Health and Safety Regulation 2011 • Managing Risks of Plant in the Workplace Code of Practice 2013 • AS/NZS 1891.4:2009 Industrial Fall-Arrest Systems And Devices — Selection, Use And Maintenance 	
Fuel Tank	Fuel Tanks	M06	<ul style="list-style-type: none"> • AS 1940 – The storage and handling of flammable and combustible liquids 	
Fuel System	Fuel System	Y01	as above	

Asset description	Asset group	Frequency	Australian standard / regulation	Task comments
Lift	Personnel Lifts	M03	<ul style="list-style-type: none"> • AS 1735.1—2003 – Lifts, Escalators and Moving Walks – Part 1, General Requirements • AS1735.2—2001– Lifts, Escalators and Moving Walks – Part 2, Passenger and goods lifts- Electric • AS1735.9—1994– Lifts, Escalators and Moving Walks – Part 9, Special Purpose industrial lifts • AS1735.10—1998– Lifts, Escalators and Moving Walks – Part 10, Tests 	
Ladder Safety	Ladders	Y01	<ul style="list-style-type: none"> • AS/NZS 1892.5:2000 - Portable ladders - Selection, safe use and care • AS/NZS 1892.1:1996 - Portable ladders - Metal • AS/NZS 1892.3:1996 - Portable ladders - Reinforced plastic 	
Electrical Safety	Generators	M03	<ul style="list-style-type: none"> • AS 3010:2005 – Electrical Installations – Generator Sets • AS2790:1989 – Electrical Generator Sets – Transportable (up to 25kW) 	
Electrical Safety	Load Banks	M03	as above	

Appendix C: High risk work licences

High-risk work licence	Description of class of high-risk work
Basic scaffolding	<p>Scaffolding work involving any of the following:</p> <ul style="list-style-type: none"> • 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	<p>Scaffolding work involving any of the following:</p> <ul style="list-style-type: none"> • 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	<p>Scaffolding work involving any of the following:</p> <ul style="list-style-type: none"> • cantilevered hoists • hung scaffolds, including scaffolds hung from tubes, wire ropes or chains, and • suspended scaffolds.
Dogging	Dogging work.
Basic rigging	<p>Rigging work involving any of the following:</p> <ul style="list-style-type: none"> • 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	<p>Rigging work involving any of the following:</p> <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 D: High risk plant and safety 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 Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Office Lifts	Yes	Annually	N/A	Service Docket 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 Docket 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 Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Davit Base, Davit Structure, Davit Arm (portable and fixed)	No	6 monthly	Unique ID number Tag or sticker required following inspection	Equipment Register, Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Shackles, hooks	No	12 monthly	Tag or sticker required following inspection	Service Docket 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 Docket onsite and saved in CIS with the work order	Maintenance Coordinator

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Risks	Key Elements	Registrable Plant (Yes / No)	Inspection Frequency (As a minimum)	Tag / Identification / Sticker	Record Keeping	Responsibility
	Chain and Wire Rope Slings	No	12 monthly	Tag required following inspection	Service Docket 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 Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	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 Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Gas Cylinder – Regulator, Flashback Arrestor	No	Annually	Tag required following inspection	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Gas Cylinder – Gas Bottle	No	10 years	Marked on the gas bottle	Service Docket onsite and saved n CIS with the work order	Gas Cylinder Owner
Fleet and Vessels	Vehicle	No	Annually	Registration certificate	Service Docket	Fleet Manager
	Forklifts	No	Annually	Registration certificate and Compliance Sticker	Service Docket	Fleet Manager

Risks	Key Elements	Registrable Plant (Yes / No)	Inspection Frequency (As a minimum)	Tag / Identification / Sticker	Record Keeping	Responsibility
	Vessels (boats)	No	Annually	Registration certificate	Service Docket	Vessel Management Coordinator
Fall Protection System	Harness	No	6 monthly	Unique ID number	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Lanyard	No	6 monthly	Unique ID number	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Permanent anchors and static lines	No	6 monthly	Tag required following inspection Information plate fixed to a suitable base near the item	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Confined Space Entry Tripods	No	6 monthly	Tag required following inspection	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Confined Space Entry Retrieval Systems	No	6 monthly	Tag required following inspection	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
Electrical Safety	Electrical Equipment Testing and Tagging	No	Various	Tag required following inspection	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	RCDs	No	Various	Tag required following inspection	RCD Log book, Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator

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Risks	Key Elements	Registrable Plant (Yes / No)	Inspection Frequency (As a minimum)	Tag / Identification / Sticker	Record Keeping	Responsibility
Fire & emergency	Illuminated exit signs	No	6 monthly	N/A	Log book, Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Emergency Lighting	No	6 monthly	N/A	Log book, Service Docket 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 Docket 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 Docket 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 Docket 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 Docket 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 Docket 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 Docket onsite and saved in CIS with the work order	Maintenance Coordinator or Facility Officer
	Gas Spill detection – Gas Detector for Chlorine Gas, Ammonia, Ozone etc	No	Various	N/A	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator

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Risks	Key Elements	Registrable Plant (Yes / No)	Inspection Frequency (As a minimum)	Tag / Identification / Sticker	Record Keeping	Responsibility
	Auto Shut off system	No	Annually	N/A	Service Docket 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 Docket 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 Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Self-contained breathing apparatus (SCBA)	No	Annually	Tag required following inspection	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Powered Air Purifying Respirator (PAPR)	No	Annually	Tag required following inspection	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator
	Personal Floating Device (PFD)	No	Annually	Tag required following inspection	Service Docket onsite and saved in CIS with the work order	Vessel Management Coordinator
	Portable Gas Detectors	No	6 monthly	Tag required following inspection / calibration	Service Docket onsite and saved in CIS with the work order	Maintenance Coordinator

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Appendix E: 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 4343-2005: Pressure 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.
- Amusement devices covered by Section 2.1 of AS 3533.1:2009: Amusement Rides and Devices, except for certain Class 1 structures (see below).
- Concrete placing booms.
- Mobile cranes with a rated capacity of greater than 10 tonnes.

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 1200:2000: *Pressure equipment* – see section A1 of Appendix A to AS/NZS 1200:2000
- a crane or hoist that is manually powered
- a reach stacker
- lifts installed in a private residence within the meaning of AS1735.1:2003 *Lifts, escalators and moving walks—General requirements*
- certain amusement devices including:
 - class 1 devices
 - playground devices
 - water slides where water facilitates patrons to slide easily, predominantly under gravity, along a static structure
 - wave generators where patrons do not come into contact with the parts of machinery used for generating water waves, and
 - inflatable devices, or other than inflatable devices-continuously blown-with a platform height of 3 metres or more.

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