# Procedure

## Working On, In or Near Water

### Document number: 3



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# Contents

# 1 Purpose

The purpose of this document is to define Seqwater's expectations around safely working on, in or near water.

This procedure outlines how Seqwater meets the requirements for safely working on, in or near water as outlined in:

- *Work Health and Safety Act 2011* (Qld)
- *Work Health and Safety Regulation 2011* (Qld)

# 2 Scope

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

# 3 Definitions

| Term | Definitions |
|---|---|
| Automatically inflated lifejacket | A lifejacket, in which inflation is effected as a result of immersion without the wearer required to carrying out any action at the time of immersion. |
| Body of water | Any human made or natural collection of water that presents a potential hazard. This includes dams, reservoirs, tanks, rivers and lakes. |
| Competent person | A person who has acquired through training, qualification or experience the knowledge and skills to safely and effectively carry out the task. |
| Floodwater | Water that overflows from a river, lake, etc during a flood event. The velocity, depth and debris load of floodwater is hard to predict as situations change rapidly. |
| Guardrail | A structure to prevent persons from falling off any platform, walkway or landing. The height of a guardrail measured vertically above the surface shall be not less than 900 mm. |
| Lifejacket | A garment or device which, when correctly worn and used in water, will provide the wearer with a specific amount of buoyancy to support the wearer while in the water and prevent drowning.<br>Also known commonly as a Personal Flotation Device (PFD). |
| Swift water | Any water with a flow of more than 0.5 m/s. |
| Unprotected edge | A drop off or fall from any height that is not physically protected or is created by the removal or modification of an existing structure which is used to prevent exposure to an unprotected edge, such as removal of flooring, guard rail, hatches, pit covers or manholes. |

# 4 Roles and responsibilities

| Role | Responsibility |
|---|---|
| Managers and Coordinators | • Communicate, consult and ensure a process or system is in place to supervise workers involved in activities where they may be exposed to any risks associated with working on, in or near water.<br>• Regularly monitor and review the effectiveness of controls for managing the risks related to working on, in or near water within their area of responsibility and implement corrective actions and treatment plans where required. |
| Line Supervisors | • Make sure that risks associated with working on, in or near water by members of their team are identified, assessed and managed in consultation with workers and/or health and safety representatives.<br>• Implement and regularly review controls to mitigate the risks.<br>• Provide workers with fit for purpose equipment as required by this procedure and ensure they are correctly used and maintained.<br>• Ensure a JSEA/SWMS is developed and reviewed for any work activity that involves working on, in or near water as per this procedure. |
| Recreation and Catchment Service | • Provide advice, support and monitoring in relation to the implementation of the Seqwater Safe Vessel Use Procedure (PRO-00865).<br>• Establish and implement processes to ensure the lifejackets used in Seqwater are properly selected, used and serviced. |
| Engaging Officer (including project managers) | • Identify the risks associated with working on, in or near water at the work planning and scoping stage.<br>• Communicate with the contractors of the identified risks and the requirements from this procedure.<br>• Obtain and review the JSEA/SWMS and other required documents to ensure the risks associated with working on, in or near water are identified and appropriate control measures are developed.<br>• Conduct assurance activities to ensure controls are implemented. |
| WHS Team | • Provide advice, support and consultation on managing the hazards and risks, including identification and implementation of effective risk controls. |
| Workers | • Conduct a risk assessment e.g. JSEA/SWMS and implement risk control measures prior to commencing any work that involves working on, in or near water.<br>• Turn up fit for work when undertaking any tasks that involve working on, in or near water.<br>• Wear and maintain personal protective equipment (PPE) as required by this procedure. |

# 5 Procedure

The risks associated with working on, in or near a water body must be eliminated wherever reasonably practicable, otherwise the risks of undertaking the activity must be minimised so far as is reasonably practicable.

Managing the following risks associated with working on, in or near water is the primary focus of this procedure:

- Falling into the water and drowning.
- Being swept away by fast moving water and being injured or drowning.
- Falling into water with electrical equipment and suffering an electric shock.
- Being trapped under water by equipment or objects and drowning.
- Hitting objects or being hit by moving objects should a person fall into a water body.
- Being exposed to contaminated water, or being exposed to flora or fauna, in the water.

## 5.1 Managing the risks of working on, in or near water

### 5.1.1 Risk assessment

A risk assessment must be conducted in consultation with relevant workers to identify and assess all the risks associated with working on, in or near water. The risk assessment must be undertaken in accordance with the WHS Hazard Identification and Risk Management Procedure (PRO-00657). This involves the following:

**Workplace / asset based risk assessment**

- Identify work locations where activities that involve working on, in or near water may be carried out.
- Where possible, the risk of falling into a water body and drowning shall be assessed and captured in the relevant workplace WHS risk register.
- Where a workplace is not covered in any workplace WHS risk register, but is regularly accessed by workers, a risk assessment must be conducted of the site.

**Task / activity based risk assessment**

- A JSEA/SWMS must be developed or reviewed prior to commencing any work that involves working on, in or near water, or
- a Real Time Hazard Assessment (RTHA) is completed where the risk associated with the work is low.

When undertaking the risk assessment, the following factors must be considered:

- access / egress to or from the location on, in or near water, where the work will be carried out
- the frequency and duration of exposure to the identified hazards
- the water body factors that impact on the consequence of a fall into the water body e.g. depth, speed of the water flow, turbulence, debris load and type and slope of the water bed
- types of equipment to be carried and used
- the knowledge, experience and competency of the workers
- environmental conditions which may impact on the work activity and rescue (i.e. remoteness of the workplace, weather conditions such as wind, rain, temperature and lighting)
- controls that can eliminate or mitigate the hazards in accordance with the hierarchy of controls as outlined in the following section
- the relevant controls outlined in Seqwater Life Savings Controls Handbook (MAN-00313).

### 5.1.2 Hierarchy of controls for managing risks of working on, in or near water

The hierarchy of controls must be used to identify the most appropriate risk control measures to manage the risk. The identification and selection of risk control measures must be undertaken in consultation with workers.

The following are possible control measures associated with working on, in or near water:

| Hierarchy of control | Example of possible risk controls |
|---|---|
| Elimination (Highest level) | Eliminate the potential of falling into water and drowning through work planning and process / workplace design. e.g. remote monitoring / reading device, installation of pipes, tubes and pumps to collect water samples without needing to access the water's edge. |
| Substitution | Replace the process, plant or equipment with an alternate e.g. fabricate structures on land then transferring them to be installed in position over water, use of drones or roboboats etc. |
| Isolation | Isolate workers from the water edge by installing a guardrail or barrier around a water body. |
| Engineering | Design or re-design the process, plant or equipment (i.e. install temporary barrier, provide fixed access / egress). |
| Administrative | Develop work instructions / JSEA/SWMSs for undertaking tasks that expose workers to falling into water bodies and drowning.<br>Warning signage. |
| PPE (Lowest level control) | Hard hat, boots, harnesses and lifejackets. |

### 5.1.3 Safe work environment

Where reasonably practicable, appropriate access and egress arrangements must be provided and maintained to a workplace where work activities are being undertaken on or in the vicinity of a water body. Requirements of security, ongoing maintenance and emergency rescue must be considered when selecting these access and egress methods.

Where possible, appropriate edge protection e.g. handrails and/or guardrails which prevent a worker from falling into a water body must be provided, installed and maintained.

The selection and configuration of the access and egress structures and associated handrails and guardrails must comply with *AS 1657 Fixed platforms, walkways, stairways and ladders – Design, construction and installation*.

Temporary edge protection and barriers should be considered where the provision of permanent structure and protection is not reasonably practicable. The temporary edge protection and barriers must comply with the requirements of the *AS/NZS 4994Temporary Edge Protection part 1 and part 3.*

Good ground condition and housekeeping must be maintained to minimise the risk of falling into a water body.

Appropriate security, lock and signage may be installed to prevent inadvertent access to unprotected water edge at a Seqwater workplace from any workers and members of public.

Where activities that involve working on, in or near water are being carried out during the hours of darkness adequate lighting, that is appropriate to the work being undertaken, must be provided and maintained.

### 5.1.4 Safe work equipment and rescue equipment

Where identified through a risk assessment, job plan or JSEA/SWMS the following equipment in relation to working on, in or near water must be provided:

- Fit for purpose equipment e.g. vessels, kayaks and mobile plant.
- Where there is a risk of falling, a fall restraint system and fall arrestment system e.g. anchor points, ropes and harness.
- Lifejackets (PFDs) that comply with *AS 4758.1 Personal floatation devices – general requirements*. Appendix B of this procedure must be followed when selecting and safe using a lifejacket.
- Rescue floatation device (e.g. life ring, life floats and throw bag) with a rope attached. Where required it should be in a location readily available from the work being undertaken.
- A first aid kit.
- A swift water rescue kit.
- Other appropriate equipment to facilitate the retrieval of personnel from the water will be provided based on the risks and control measures identified in the risk assessment or JSEA/SWMS.

All equipment used for working on, in or near water must be stored maintained, inspected and serviced as per Seqwater's Safe Work with Plant Procedure (PRO-00867). Where required by the procedure a service tag must be affixed to the equipment.

#### Situations where a lifejacket (PFD) must be worn

A lifejacket (PFD) must be worn at all times in the following circumstances:

- When on board any Seqwater water craft.
- When working within two metres of an unprotected edge that is adjacent to a body of water into which a worker could fall and reasonably drown while carrying out the intended work. Examples include, but are not limited to:
  - A water body where a worker is unable to perform a self-rescue either due to their swimming ability or lack of a safe method of egress. For example a worker who cannot swim is working near a deep reservoir or a worker who can swim is working near a water basin with no safe method to get out should they fall in.
  - Swift water where both self-rescue or rescue by others is difficult without a lifejacket or swift water jacket being worn.
  - A water body into which there is a high likelihood of a worker becoming unconscious should they fall in.
- Other situations identified through a risk assessment e.g. a JSEA/SWMS.

### 5.1.5 Safe work systems

#### Work planning

Appropriate work planning must be carried out prior to commencing any work activities that involve working on, in or near water. The work planning may involve:

- determining the most appropriate work methods that minimise the risk of falling into water, becoming submerged under water and drowning
- allocating adequate and competent workers to perform the task
- selecting fit for purpose equipment
- planning most appropriate access / egress to or from the area you will be working in (e.g. may be safer to access from the water rather than from land)
- planning the journey including journey via vehicle and/or vessel
- developing or reviewing a JSEA/SWMS where required

- developing a rescue plan where identified through a risk assessment e.g. JSEA/SWMS.

### High risk works permits

Where the work activity involves high-risk work activities, the following permits and their support procedures also apply:

- Work at Height Permit
- Grid Mesh Removal Permit
- Confined Space Entry Permit

### Energy isolation

Where isolating and de-energising the source of a water flow or any other energy sources is identified as a control measure in a risk assessment, the Seqwater Energy Tag and Lockout Procedure (PRO-00014) must be followed. e.g. isolating aerators, clarifiers or pumps.

### Remote or isolated work

If the work to be carried out is remote or isolated work, Seqwater's Remote or Isolated Work Procedure (PRO-00018) must be followed.

## 5.2 Managing the risks – specific activities

### 5.2.1 Working near water

#### Working near water bodies in a fixed structure without edge protection

Where workers need to enter and work within two metres of an unprotected water's edge in a fixed structure (e.g. sediment basin), a JSEA/SWMS must be developed or reviewed and all the identified controls must be implemented prior to commencing the work. The following controls need to be considered when developing the JSEA/SWMS:

- Installation of temporary barriers or edge protection where reasonable practicable.
- Use of a fall restraint system set up by competent person where reasonable practicable.
- Maintaining visual sight by a second person.
- Wearing a Level 100 or above lifejacket.
- An easily accessible floatation device for rescue e.g. life floats, life ring or throw bag with retriever rope.

#### Working near aeration tank

Workers must not work within two meters of any aeration tank without an appropriate barrier or other form of fall protection. The aeration tank must be isolated and residual energy released as per the Energy Tag and Lockout Procedure (PRO-00014) prior to entering the tank.

#### Natural water bodies without fixed protection

Where workers need to access and work within two metres of a natural water body without any edge protection, a JSEA/SWMS must be developed or reviewed and all the identified controls must be implemented prior to commencing the work. The following controls need to be considered when developing the JSEA/SWMS:

- Options to eliminate or minimise the need to work near the natural water body.
- Minimum of two persons required for the task. Workers should remain within sight and sound of each other at all times.
- Use of a fall restraint system set up by a competent person where reasonable practicable.
- The means and frequency of welfare monitoring shall be determined by the JSEA/SWMS.

- Wearing a Level 100 or above lifejacket.
- Developing a rescue plan where identified as necessary through the JSEA/SWMS.

**Swift water**

The need to perform work near swift water must be eliminated or otherwise minimised as far as reasonably practicable through work planning and workplace or process design.

Where workers need to access and work near swift water, a JSEA/SWMS must be developed or reviewed and all the identified controls must be implemented prior to commencing the work. The following controls must be included in the JSEA/SWMS:

- Minimum of two persons required for the task. Workers should remain within sight and sound of each other at all times.
- Wearing a Level 100 swift water lifejacket. This jacket must meet the following requirements that outlined in *AS 4758.1: Personal floatation devices – general requirements*:
  - ability to swim in both defensive and aggressive positions
  - visibility day and night
  - quick release harness system
  - knife attachment.
- Workers completed the Swift water first responder training.
- Swift water rescue kit and rescue plan.

The following additional controls, may also need to be considered:

- Installation of temporary barriers and edge protections where reasonably practicable.
- Use of a fall restraint system set up by a competent person.

Note – where temporary barriers, edge protection or fall restraint systems are used, a lifejacket is not required unless otherwise determined by risk assessment.

### 5.2.2 Working on water

A fit for purpose vessel or other means of transport or floatation equipment must be selected where any work activities require working on a water body. The risk of falling into water from the vessel or other means of transport and floatation equipment must be managed as per the Seqwater Safe Vessel Use Procedure (PRO-00865).

### 5.2.3 Working in water

Seqwater personnel are not permitted to enter and work in swift water that is deeper than one metre. Where the water speed is more than 1m/s, the maximum depth of water that can be entered must be reduced according to the below formula:

- Maximum depth (m) = 1 / speed of water (m/s)

Where workers need to enter, walk, swim and undertake work in water, a JSEA/SWMS must be developed or reviewed and all the identified controls implemented prior to commencing the work. The following need to be considered:

- An assessment of the depth and flow of the water prior to entering the water.
- Minimum of two persons required for the task. Workers should remain within sight and sound of each other at all times.
- Swimming competency of the workers.
- Wearing fit for purpose foot wear e.g. wading boots, gum boots or other foot wear suitable while working in the water.
- Having a level 100 or above lifejacket readily accessible or wearing of the lifejacket where required by the JSEA/SWMS.

- Any changes in substrate or objects in water.
- Developing a rescue plan where identified as necessary through the JSEA/SWMS.

### 5.2.4 Diving

Seqwater personnel are not permitted to perform any diving work. Licensed contractors must be engaged for this purpose. Diving work must be performed in accordance with *Work Health and Safety Regulation* 2011 (Qld), *Code of Practice - Occupational diving work* and *AS/NZS 2299.1Occupational diving operations —Standard operational practice*.

The following table outlines minimum requirement that need to be undertaken at each stage of diving work:

| Stage | Seqwater Engaging Officer / Project Manager | Diving contractor |
|---|---|---|
| Planning | • Develop scope of work<br>• Facilitate the site inspection and hazard ID and risk assessment for the contractor<br>• Provide technical information related to Seqwater assets including drawings, specifications.<br>• Communicate Seqwater's expectations around managing safety, environment and drinking water risks while undertaking the work.<br>• Review the SWMS and Dive Plan provided by the contractor. | • Appoint a competent person to supervise the diving work.<br>• Conduct the hazard ID and risk assessment.<br>• Develop a Dive Plan and SWMS.<br>• Provide the Dive Plan and SWMS to the Seqwater Engaging Officer. |
| Execution the diving work | • Organise access to the site and site amenities<br>• Arrange for the required energy isolation, tag and lockout and de-isolation<br>• Verify the certificates of medical fitness<br>• Verify licences<br>• Monitor the work is completed in accordance with the SWMS and Dive Plan | • The appointed dive supervisor goes through the dive plan with all workers involved in the diving work.<br>• Implement the controls identified in the SWMS.<br>• Undertake the work as per the dive plan<br>• Use the dive safety log to record details of the dive.<br>• Provide ongoing supervision of all workers involved in the diving work.<br>• Initiate rescue plan where necessary.<br>• If diving in treated water, comply with Seqwater's Tools & Equipment Disinfection Procedure (PRO-01560) and Disinfection of Pumps & Hoses Procedure (PRO-01869) |
| Completion | • Confirm the work is completed<br>• Retain the relevant records as detailed below. | • Verity and sign off the dive safety log.<br>• Clear the site and hand back to Seqwater.<br>• Retain records of their dive. |

The following records must be retained by both Seqwater and the contractor:

- Certificate of medical fitness for anyone participating in the diving work.
- Appropriate qualifications or certificate of attainment to prove the divers' competency.
- A formal written Dive Plan and risk assessment covering the tasks to be undertaken.
- Dive Safety Log.
- Divers current Senior First Aid qualifications.
- Any records that relate to any incidents occurred during the diving work.

### 5.2.5 Operating a mobile plant on or near water

Where workers need to operate a ride on mower, excavator, mobile crane or other mobile plant near a water body, a JSEA/SWMS must be developed or reviewed and all the identified controls must be implemented prior to commencing the work. The following controls need to be considered:

- Walk through to assess the conditions of the work areas prior to commencing work.
- Fit for purpose equipment.
- Operating the plant to conditions.
- Establishment of exclusion zones and barriers to prevent falling into or submersion under water where reasonably practicable.
- A spotter to guide the operator and monitor person working in the vicinity.
- A lifejacket must be readily available for use.

### 5.2.6 Driving on a submerged road

Should there be a risk that roads may be submerged journey planning must be undertaken to eliminate or minimise the need to drive on submerged road where reasonably practicable (e.g. use an alternative route)

Where any highway, arterial or suburban road is flooded, all Seqwater workers must follow the road closure signs and instructions provided by local councils and authorities.

Seqwater workers are permitted to drive across a submerged road if they are comfortable there is no risk in making the crossing and when all of the following criteria are met:

- the depth of waters less than 150 mm (around the height of the tyre of the vehicle)
- the water is still, or the flow is less than 0.5 m/s
- the end of the crossing is visible and there are no signs of erosion or instability of the road base
- there is no potential for a sudden increase in the depth or velocity of water
- they have received approval from their line supervisor prior to crossing the road.

Should there be circumstances where a worker needs to drive across a submerged road that does not meet the above criteria, these roads must be proactively identified and a risk assessment completed and approved by the worker's General Manager. Once the risk assessment is approved, the worker must contact their line supervisor prior to making the crossing to confirm that the requirements established by the risk assessment are met and controls implemented, then once the crossing is completed to verify they have made the crossing safely.

### 5.2.7 Workers suspended over water

If there is a requirement for workers to be suspended in a workbox or in a EWP while working over water, the workers may not be required to be attached to the workbox or EWP via a harness subject to the following conditions:

- The risk of falling into water and drowning is higher than the risk of being injured by hitting the water surface or submerged objects.

- A dedicated spotter/dogger must be present at all times to guide the operator and monitor the person working over water.
- A floatation device is readily accessible for rescue purpose e.g. life ring and life floats.

Other uses of a workbox or EWP outside of these specific circumstances (e.g. when traversing to the water's edge) must follow the Seqwater Prevention from Falls Procedure (PRO-00015).

### 5.2.8 Operating electrical equipment on or near water

Where possible, use pneumatic tools, battery powered tools or extra low voltage powered tools when working on or near water to minimise the risk of contact with electricity.

Where electrical equipment and leads are selected to be used on or near water, they must be:

- connected to an earth leakage safety switch or residual current device (RCD) if the equipment and lead needs to be plugged / connected to a main electricity supply
- physically prevented, as far as practicable, from falling into water and protected from exposure to water unless specifically rated for that purpose
- properly water proofed with appropriate International Protection (IP) rating for liquid ingress
- checked for damage before use
- tested and tagged.

All electrofishing works must be conducted in accordance with the Seqwater Boat Electrofishing Safety Manual (MAN-00212). A JSEA/SWMS must be developed and/or reviewed prior to commencing any boat electrofishing operation.

## 5.3 Health monitoring and fitness for work

### 5.3.1 Health monitoring and immunisation

Health monitoring and immunisation requirement for roles that undertake work activities on, in or near water are to be identified and implemented in accordance with the Seqwater Health Monitoring and Immunisation Procedure (PRO-00020).

Immunisations may be required for workers who may be exposed to biological hazards should they be required to work with contaminated water, or may be at a risk of falling into contaminated water (e.g. Hepatitis B).

Health monitoring will include pre-employment medicals to identify any medical conditions that may impact on a worker's ability to rescue themselves should they fall into water.

A worker must notify the relevant supervisor or manager if any adverse changes to his/her medical conditions that may affect the health and safety of the worker. Appropriate control measures can be identified and implemented to compromise the medical conditions based on a risk assessment.

### 5.3.2 Fitness for work

The workers who undertake the following activities on, in or near water must have a Breath Alcohol Concentration (BrAC) of 0.00%:

- work associated with swift water
- diving work
- operation of a vessel.

# 6 Training and competency

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

The following training and competencies are specific requirements associated with working on, in or near water:

- Swift water first responder for any workers who may be required to work near swift water.
- Vessel operation related training for workers operating vessels and vessel induction for passengers - refer to Seqwater Safe Vessel Use Procedure (PRO-00865) for further information.
- Appropriate instruction on how to check, use and care of a lifejacket must be provided to any workers who are required to wear a lifejacket. This instruction can be combined with any other training outlined above.
- For workers who may need to swim during an emergency situation should they fall into water, the relevant supervisors and vessel masters must confirm with the workers their competency in swimming. A risk assessment should be conducted and additional control measures identified if their competency is not adequate or cannot be confirmed.

# 7 References

## 7.1 Legal and other requirements

| Description | Status | Location |
|---|---|---|
| *AS 1657 Fixed platforms, walkways, stairways and ladders – Design, construction and installation* | Active | www.saiglobal.com/online |
| *AS 4758.1 Personal floatation devices – general requirements* | Active | www.saiglobal.com/online |
| *Managing the risk of falls at workplaces Code of Practice 2011* (Qld) | Active | www.legislation.qld.gov.au |
| *Queensland State Archives General Retention and Disposal Schedule for Administrative Records* | Active | www.archives.qld.gov.au/Recordkeeping/RetentionDisposal/Pages/GRDS.aspx |
| *AS 1319 Safety signs for the occupational environment* | Active | www.saiglobal.com/online |
| *AS/NZS 4994 Temporary edge protection* | Active | www.saiglobal.com/online |
| *Work Health and Safety Act 2011* (Qld) | Active | www.legislation.qld.gov.au |
| *Work Health and Safety Regulation 2011* (Qld) | Active | www.legislation.qld.gov.au |

## 7.2 Supporting procedures

| Description | Status | Location |
|---|---|---|
| PRO-00657 Hazard Identification and Risk Management Procedure | Active | Q-Pulse & Waternet |

| Description | Status | Location |
|---|---|---|
| PRO-00865 Safe Vessel Use Procedure | Active | Q-Pulse & Waternet |
| PRO-00015 Prevention from Falls Procedure | Active | Q-Pulse & Waternet |
| PRO-00014 Energy Tag and Lockout Procedure | Active | Q-Pulse & Waternet |
| PRO-00020 Health Monitoring and Immunisation Procedure | Active | Q-Pulse & Waternet |
| PRO-00002 Integrated Management System Internal Audit Procedure | Active | Q-Pulse & Waternet |
| PRO-00867 WHS Safe Work With Plant Procedure | Active | Q-Pulse & Waternet |
| PRO-01574 Training and Competency Management Procedure | Active | Q-Pulse & Waternet |
| MAN-00212 Boat Electrofishing Safety Manual | Active | Q-Pulse & Waternet |
| PRO-01869 Disinfection of Pumps & Hoses Procedure | Active | Q-Pulse & Waternet |
| PRO-01560 Tools & Equipment Disinfection Procedure | Active | Q-Pulse & Waternet |

## 7.3 Supporting documents, forms and templates

| Description | Status | Location |
|---|---|---|
| Job Safety and Environment Analysis Template (TEM-00013) | Active | Q-Pulse & Waternet |
| Work at Height Permit (FRM-00414) | Active | Q-Pulse & Waternet |
| High Risk Work Rescue Plan (TEM-00027) | Active | Q-Pulse & Waternet |

# 8 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 and* Seqwater's Record Retention and Disposal Procedure (PRO-01766).

# Appendix A – Examples of work activities and controls

The following table outlines activities undertaken in Seqwater that may expose workers to the risks of falling into water and drowning. More specific control measures need to also be identified based on the characteristic of the workplace and activity.

| Scenario | Risk controls to be considered | Example JSEA/SWMS |
|---|---|---|
| Inspection at a WTP / reservoir | • Stay within the barrier or edge protection where possible<br>• Maintain visual contact from second person<br>• Wear a lifejacket<br>• Rescue floatation device e.g. life ring readily accessible<br>• A fixed ladder (or stairs) for ease of exit | To be provided |
| Inspection at a dam or spillway | • Stay within the barrier or edge protection where possible<br>• Maintain visual contact from second person<br>• Wear a lifejacket<br>• Life ring readily accessible | To be provided |
| Maintenance work at a spillway | • Stay within the barrier or edge protection where possible<br>• Set up temporary barricade where practical<br>• Set up fall restraint system<br>• Maintain visual contact from second person<br>• Wear a lifejacket<br>• Rescue plan and equipment | To be provided |
| Water sampling and Hydrographical work e.g. gauging | • Plan the trip (road and vessel) and work method to minimise the risk<br>• Stay within the barrier or edge protection where possible<br>• Minimum two persons<br>• Wear a lifejacket<br>• Rescue plan | To be provided |
| Water patrolling | • Plan the trip<br>• Fit for purpose vessel<br>• Competent Vessel Master and Crew (mandatory)<br>• Vessel induction (mandatory)<br>• Wear lifejacket when on board a vessel (mandatory)<br>• Emergency response plan and drill as per the Vessel Safety Manual (VSM) | To be provided |
| Mowing or excavating near a water body | • Select the most appropriate work method to minimise the risk<br>• Walk around to assess the environment and condition<br>• Fit for purpose equipment<br>• Set up temporary barrier where reasonably practicable<br>• Use a spotter<br>• Signs or flags | To be provided |
| Driving across a spillway | • Fit for purpose vehicle<br>• Depth and velocity of water is known and is appropriate for vehicle | To be provided |

# Appendix B – Guidelines for lifejacket selection, use and service

## Selecting a fit for purpose lifejacket

To ensure the lifejacket selected is fit for work and reduces the risk of drowning, the following factors must be considered:

- location in which the lifejacket will be used
- conditions of work environment (e.g. wind, rain)
- condition of water bodies e.g. depth of water, flow speed of water and objects in water
- type of work activities
- swimming skills of the worker
- type of clothing worn and equipment being carried.

To select the most appropriate lifejackets, determine the following features of a lifejacket:

- level of buoyancy of a lifejacket (Level 150, level 100 or level 50)
- types of buoyancy media (inherent buoyant e.g. foam, hybrid or inflatable)
- activation methods for inflatable lifejacket e.g. automatic or manual inflation
- other features needed (such as location aids, buddy lines, whistles, integrated with harness etc)
- size of the lifejacket (extra-large, large, medium or small).

The following table outlines Seqwater's minimum expectations around the selection of lifejackets. Any decision to select a lower level lifejacket must be supported by a risk assessment and approval by the workers manager.

| Scenario | Type of lifejacket required | Comments |
|---|---|---|
| Access and work within 2 metres of unprotected water edge – man made water bodies<br>Example activity: Conduct an inspection at a WTP / reservoir. | • Level 100 or above<br>• Foam<br>• Auto or manual inflated | |
| Access and work within 2 metres of unprotected water edge – natural water bodies e.g. dams, weirs and river banks<br>Example activity: Water sampling | • Level 100 or above<br>• Foam<br>• Auto inflated | |
| Access and work within 2 metres of unprotected water edge – swift water<br>Example activity: Water sampling, Hydrographical and research activities | • Level 100 or above<br>• Auto inflated – wet proof<br>• Hybrid (can be activated via automatically and manually) | |
| On board of a Seqwater vessel<br>Example activity: Water patrolling | • Level 100 or above<br>• Foam<br>• Manual inflated | Anyone on board a Seqwater vessel who can't swim is required to wear the foam based lifejacket all the time whist on board of the vessel. |
| Operating a mobile plant near a water body<br>Example activity: Mowing or excavating | • Level 100 or above<br>• Auto inflated | Readily accessible |

## Purchase

All lifejackets must be purchase made through Seqwater's Stores. Contact the regional stores to place an order for the lifejacket that you select.

## Store, use and care

Once a lifejacket is issued to a site, vessel or to a person, the relevant line supervisor, vessel custodian or the person must ensure the lifejacket is properly stored and cared for as per the manufacturer's instruction.

The lifejacket must be used to its designed purpose, as per the manufacturer's instruction. A pre-wear check must be carried out before each use. The pre-wear check should cover the following items:

- For all lifejackets, visually check for any damage.
- For inflatable lifejackets, check the following:
  - CO2 cylinder is full.
  - CO2 cylinder is properly secured (e.g. hand tightened).
  - Auto cartridge is hand tight and not expired (where fitted).
  - Indicator(s) show green (ready).
  - Manual operation cord is accessible when worn.

If a lifejacket fails the pre-wear check, the lifejacket must not be worn and attached with an "out of service" tag until a service is carried out and any required rectification are completed by a competent service provider. For any inflatable lifejacket, a service must be conducted following any activation / discharge of the CO2 cylinder.

Appropriate instruction on how to check, use and care of a lifejacket must be provided to any workers who are issued a lifejacket.

## Service and inspection

All lifejackets that are owned by Seqwater must be regularly serviced and inspected by a competent person as follows.

- Foam based lifejacket – 12 monthly
- Inflatable lifejacket – 12 monthly

A service schedule will be maintained in CIS through the use of work orders. The relevant line supervisor, vessel custodian or the person allocated a life jacket are required to send their lifejackets to the Seqwater Stores for services as per the CIS work order. The same type of lifejacket will be provided to cover the period throughout the service and returning time.

On completion of the service, the service provider must affix a service tag to the lifejacket. As a minimum the service tag should state the following:

- Person who conducted the service.
- Date of service conducted.
- Date next service is due.

Any lifejacket that failed to pass the service / inspection must be disposed of and replaced with new or serviced one.