

Guidelines for Preparing a Water Efficiency Management Plan (WEMP)

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1 Introduction

These guidelines are made by the chief executive of the Department of Energy and Water Supply, under section 572(a) of the *Water Supply (Safety and Reliability) Act 2008* (the Act). The Act can be viewed online at www.legislation.qld.gov.au.

1.1 Application of these guidelines

These guidelines apply to a non-residential customer (customer) that is required to prepare a water efficiency management plan (WEMP), referred to as a 'plan' throughout these guidelines.

Customers that do not hold a water entitlement can be required to prepare a plan. Customers that hold a water entitlement can be required to prepare a plan, if they also take water from a water service provider under another arrangement. In this case, the plan will apply to the water that is taken from the water service provider.

If a customer takes water from more than one water service provider, the provider that supplies the most water is the customer's provider for the purpose of the plan.

Under section 53 of the Act, a WEMP must comply with these guidelines.

1.2 Aim of these guidelines

These guidelines provide customers with information about preparing a WEMP, including the:

- matters that must be included and addressed
- processes that must be followed in preparing a plan.

These guidelines set out the minimum requirements for preparing a plan. Customers may choose to exceed these minimum requirements.

Some of the requirements in these guidelines are mandatory, because they mirror the legislative requirements of the Act. The word **must** is used to indicate a mandatory requirement. The customer is responsible for meeting the mandatory requirements of the Act.

Some of the requirements align with best practice, but are not mandatory. These requirements are indicated by the word **should**. The customer can follow the suggested approach or choose their own approach to meet these requirements.

2 Purpose

A WEMP is prepared by a customer to understand their water consumption and to find and implement measures to improve water efficiency. To prepare and implement a plan, the customer must:

- understand their water use by assessing historical, current and projected water consumption
- identify water wastage or inefficiency
- identify, assess and prioritise water saving measures
- commit to time frames for implementing water saving measures
- monitor and report on implementation and conduct regular reviews of the plan.

2.1 Preparation

A customer must prepare a plan when they receive a written notice from their water service provider, under section 52 of the Act. The notice will state that the customer must prepare a plan and the period that the customer has to prepare the plan, before it must be given to the water service provider.

The water service provider may decide to issue this notice to a customer, under section 52(3) of the Act. Alternatively, the water service provider may be directed by the chief executive to issue a notice to the customer, under section 52(1) of the Act. Before issuing this direction, the chief executive may take into account the water service provider's supply and demand, as well as government policy in relation to water efficiency and sustainability.

2.2 Benefits

A plan helps customers to:

- identify water as a business input that should be considered as part of business planning
- better manage consumption and reduce water-related costs
- recognise links between water, energy and waste, and to reduce energy and chemical costs
- change employee behaviour and enhance the business's reputation
- review their performance and seek new opportunities for water efficiency.

A plan helps the water service provider to:

- ensure that water is available for future residential and non-residential demand
- defer or avoid investment to augment water and wastewater infrastructure
- meet demand management targets or requirements that may be set by government
- manage the equity of water efficiency measures taken by customers.

3 Content

Under section 53 of the Act, a plan must include information about the:

- (1) customer and the location
- (2) customer's water source
- (3) customer's current and historical water use
- (4) water saving and efficiencies that will be achieved
- (5) time frames for implementing the plan.

It is considered best practice to conduct a management review before developing a plan. The review should look at organisational structure and responsibility for water management. This should include an assessment of water use behaviour and attitudes within the organisation.

The review should also look at how water efficiency can be integrated into business and budgetary planning. The actions and outcomes from the review should be included in the plan.

The following steps will assist customers to prepare a plan that meets the requirements of the Act.

Step 1 – Customer information

Document the name of the customer (i.e. business name), the location of the premises, and the nature of the business that is the focus of the plan.

Step 2 – Water source information

Document each water source. This includes reticulated water from the water service provider and may also include other sources, such as:

- surface water or groundwater obtained through a water entitlement
- private bores or water storage
- rainwater tanks
- recycled water from an internal or external source.

Step 3 – Water use information

Document current and historical water consumption, including the volume of water sourced from the water service provider:

- each day on average
- each year.

Current consumption can be taken from the customer's water meter and sub-meter(s), or the customer's water bill. Historical consumption should be based on the customer's water bills over a representative period that reflects seasonal and operational changes. Two or more years is recommended, or a period approved by the water service provider.

The volume of water from other sources must be documented. This should be taken from water meters and sub-meters, where possible, or estimated where the water source is unmeasured.

Seasonal or operational variation should be identified and explained.

In addition to consumption, the plan must outline how the water is used. This information can be documented in a water use inventory. For example, a water use inventory could detail:

- fixtures (taps, toilets and showers) and appliances (washing machines and dishwashers), including the total number of each and a description of their condition and operation
- the efficiency of existing fixtures and appliances based on their water flow rate compared to the relevant Water Efficiency and Labelling Standards (WELS) water efficiency rating¹
- infrastructure (water meters, cooling towers, etc.) and equipment including a description of the current condition and operation
- processes on the site that contribute to total water use (e.g. floor wash down)
- hours of operation for infrastructure and equipment
- the number of occupants or other commercial activity unit for normal operation.

A water balance should be calculated based on water consumption and how the water is used. This can be represented in a diagram, table or chart to show the breakdown of water consumption and use on the site.

The water use information will form a baseline for the development of water saving and efficiency measures. The baseline can be compared to industry best practice, and will inform key performance indicators that are used to assess implementation.

¹ Information on WELS water efficiency ratings is available at www.waterrating.gov.au.

Step 4 – Water saving and efficiency measures

Document water saving and efficiency measures and the expected water saving and efficiency that will be achieved.

All measures should include a full description of:

- the measure
- the water source affected
- the end use affected
- whether the measure is a one-off or ongoing activity
- the expected water saving
- percentage reduction in water consumed by the end use
- time required to implement or complete the measure
- who is responsible for implementation
- key risks to the measure (technical, administrative, environmental, etc.).

Each measure should be clearly linked to a key performance indicator, which is documented in the plan. These key performance indicators can be used to track implementation of the plan.

In addition, the cost effectiveness of each water saving and efficiency measure should be assessed. This involves an assessment of the costs and benefits of each measure in order to calculate the 'payback period' for each measure, and the relative priority of measures for implementation. The payback period is the time needed to recoup the initial investment in a water saving and efficiency measure. Assessing the payback period could consider:

- implementation costs, including external capital costs (design, procurement, installation, etc.)
- savings in water charges, wastewater and trade waste charges
- savings in energy charges.

The assessment will inform which measures are the most suitable for implementation.

Specific outcomes for commercial building

Where a plan relates to a commercial building (see the glossary), the water saving and efficiency measures should ensure:

- water leaks are found and fixed
- accidental water use is identified and addressed
- fixtures and appliances have a WELS water efficiency rating² of at least:
 - 3-stars for plumbing products, toilets and white goods
 - 4-stars for urinals
- cooling towers and other infrastructure are efficient
- outdoor watering is efficient (e.g. efficient devices are used and evaporation is minimised).

Specific outcomes for other non-residential premises

Where a plan relates to other types of non-residential premises (such as a public swimming pool, nursery, hospital, factory, or power station), the water saving and efficiency measures should ensure at least one of the following:

- a reduction in water use by 25 per cent
- best practice water use efficiency
- implementation of all measures with a payback period of fewer than four years.

² Information on WELS water efficiency ratings is available at www.waterrating.gov.au.

Step 5 – Time frames

Document the time frames for implementing each water saving and efficiency measure in the plan. This must include the:

- status of the measure
- commencement date of the measure
- estimated date for:
 - full implementation (if it is an ongoing measure); or
 - completion (if it is not an ongoing measure).

The customer must estimate the expected total water savings at appropriate periods (for example, after one month, after six months, and after one year) based on the time frames for each water saving and efficiency measure. It should be noted, that this will be reported on in the customer's annual report to the water service provider.

The costs of each measure should be monitored and documented, in line with the time frames, as the measure is implemented.

4 Endorsement

Under section 55 of the Act, a customer must comply with the approved WEMP. Therefore, the plan must be endorsed by an appropriate person – that is, a person with appropriate authority to authorise the actions identified in the plan (for example, the chief executive officer, operations manager, or business manager).

5 Process for submission and approval

A plan must be submitted to the water service provider within the period stated by the service provider in the notice. A water service provider may require a customer to provide additional information about the plan within a reasonable period stated by the service provider.

The water service provider must approve the plan (with or without conditions) or refuse to approve the plan, within 60 business days after receiving it. If the water service provider has requested additional information, then the service provider must make a decision before the earlier of:

- 60 business days after receiving the information; or
- 60 business days after the information should have been given.

The water service provider must give the customer an information notice about the decision, within 10 business days of making the decision. The information notice will state the reasons for the decision. This will include the reasons for any conditions imposed on the plan, or the reasons why the water service provider did not approve it.

If the water service provider does not approve the plan, then the customer must:

- amend the plan to address the reasons stated in the information notice; and
- submit the amended plan to the water service provider within 20 business days of receiving the notice.

The water service provider may extend the period within which the amended plan must be submitted.

The water service provider may charge an application fee for the approval of a plan. The application fee cannot be more than the cost to the provider involved in assessing and approving the plan.

6 Appeal rights

A person who is given an information notice, by the water service provider, about a decision to approve or refuse a plan may appeal that decision under Chapter 7 of the Act. In the first instance, the appeal must be by way of an application for an internal review. An application for an internal review must be made within the time frame specified in the Act. If a person is not satisfied with the review decision, they may apply for external review to the Queensland Civil and Administrative Tribunal as provided for under the *Queensland Civil and Administrative Tribunal Act 2009*.

7 Reporting and review

7.1 Annual reporting

Under section 56 of the Act, a customer must report on their plan each year to the water service provider. The report must be given to the service provider each year within 10 business days of the date that it was originally approved.

The annual report must state the extent that the plan has been implemented, and identify the measures that have been initiated and the measures completed. The annual report must also detail the projected and the actual water saving and efficiencies achieved for the year. These should be compared to the key performance indicators for the plan.

Finally, the annual report must discuss any changes that have occurred as a result of a severe water supply shortage, which could impact on water consumption or implementation of the plan. This includes changes that the customer has had to implement because of the water supply shortage, for example:

- changes in processes
- changes in operational output
- maintenance or emergency issues
- changes in water source, such as a new water allocation, seasonal assignment, or a new source of recycled water.

7.2 Review

The water service provider must ensure that a customer reviews their approved plan when the water service provider considers that it is appropriate. However, a review must occur at least every five years under section 61 of the Act.

The customer must give the water service provider a copy of the review report within the reasonable period stated by the provider.

8 Amending or replacing

A plan can be amended or replaced at the:

- direction of the chief executive

- direction of the water service provider
- request of the customer.

These situations are described below. In each situation the process for preparing and submitting the plan for approval is the same as described in these guidelines, taking into account the reason why it must be amended or replaced.

8.1 Direction of the Chief Executive

Under section 57 of the Act, the chief executive may require an approved plan to be amended or replaced if the chief executive is satisfied that there is or is likely to be:

- a severe water supply shortage; or
- an increase in the severity of a water supply shortage.

The chief executive will direct the water service provider to give the customer a written notice that requires the customer to:

- amend their approved plan; or
- prepare a new plan.

The customer must comply with the notice and give the water service provider the amended or new plan within the period stated in the notice.

8.2 Direction of the water service provider

Under section 58 of the Act, the water service provider may require an approved plan to be amended or replaced if the water service provider is satisfied that:

- a customer's production output or water consumption has increased significantly
- the cost effectiveness of implementing the plan is likely to have changed significantly; or
- there is or is likely to be a severe water supply shortage.

The water service provider will give the customer a written notice that requires the customer to:

- amend their approved plan; or
- prepare a new plan.

The customer must comply with the notice and give the water service provider the amended or new plan within the period stated in the notice.

8.3 Request of the customer

Under section 59 of the Act, a customer may request to amend or replace their approved plan. If the request is approved by the water service provider, the customer must amend or replace their plan. The new plan must be given to the water service provider within the reasonable period stated by the provider.

9 Terminating a plan

There is no specific provision for ending a plan in the Act. However, the water service provider can state when or how the plan ends as a condition of the approved plan. For example, when all water saving and efficiency measures have been implemented and a final review finds that no further measures can reasonably be taken.

Alternatively, a customer may request that a water service provider end the requirement for a plan. As an example, this could occur when all water saving and efficiency measures have been implemented, or where there has been a change in the water supply situation for the customer or the water service provider that is relevant to the requirement for a plan. If the request is approved by the water service provider, the provider can notify the customer that it is no longer required³.

³ Section 24AA of the *Acts Interpretation Act 1954* provides that if an Act authorises the making of an instrument, the power includes power to repeal the instrument. The power to repeal the instrument is to be exercised in the same way and under the same conditions as the power to make the instrument.

10 Glossary

Term	Definition
Commercial activity unit	Units used by businesses to measure or benchmark production. Units should be comparable to water use and will be dependent on the objectives of the operations undertaken at the premise(s). This may include (but is not limited to) kilograms (kg), tonnes, litres, staff, students, passengers, visitors, square metres or gross floor area etc.
Commercial buildings	A commercial building includes building(s) where the significant end uses of water on the premises are for cooling towers and fittings and fixtures, including taps, showers, toilets and urinals e.g. office buildings. In this definition, the term significant end use means when the end use of water is equal to or more than 85 per cent of total water used on the premises (excluding unplanned uses).
Cooling tower	An open reticulating cooling water system used to extract heat from processes or equipment on premises, including air conditioning chillers and industrial processes.
Key performance indicator	A quantifiable measurement that accurately reflects the water use for the commercial activity conducted at the premises and permits benchmarking with historical water use or other like businesses. The relevance of a key performance indicator is strongly dependent on selecting an appropriate commercial activity unit.
Payback period	The number of years needed to recoup the initial investment for each water efficiency measure.