

# Measuring the taking of water

*Securing Western Australia's water future*

Department of Water

January 2016

Department of Water  
168 St Georges Terrace  
Perth Western Australia 6000  
Telephone +61 8 6364 7600  
Facsimile +61 8 6364 7601  
National Relay Service 13 36 77  
[www.water.wa.gov.au](http://www.water.wa.gov.au)

© Government of Western Australia

January 2016

This work is copyright. You may download, display, print and reproduce this material in unaltered form only (retaining this notice) for your personal, non-commercial use or use within your organisation. Apart from any use as permitted under the *Copyright Act 1968*, all other rights are reserved. Requests and inquiries concerning reproduction and rights should be addressed to the Department of Water.

978-1-925174-96-0 (print)

978-1-925174-97-7 (online)

The recommended citation for this publication is: Department of Water 2016, *Measuring the taking of water*, Department of Water, Western Australia.

#### **Disclaimer**

This document has been published by the Department of Water. Any representation, statement, opinion or advice expressed or implied in this publication is made in good faith and on the basis that the Department of Water and its employees are not liable for any damage or loss whatsoever which may occur as a result of action taken or not taken, as the case may be in respect of any representation, statement, opinion or advice referred to herein. Professional advice should be obtained before applying the information contained in this document to particular circumstances.

*This publication is available at our website <[www.water.wa.gov.au](http://www.water.wa.gov.au)> or for those with special needs it can be made available in alternative formats such as audio, large print, or Braille.*

# Contents

Summary .....	iv
1 Policy statement .....	1
1.1 Policy statement .....	1
1.2 Policy principles .....	1
1.3 Policy outcomes.....	1
2 Background .....	2
2.1 The need for measuring.....	2
2.2 Intent.....	3
2.3 Legislation.....	3
3 Implementing the policy.....	5
3.1 How the policy will be applied.....	5
3.2 Exemptions and exclusions .....	5
3.3 Measuring the taking of surface water from dams.....	6
3.4 Measuring the taking of groundwater and of surface water directly from watercourses...	6
3.5 Timelines for implementation.....	7
3.6 Conditions relating to metering requirements.....	8
3.7 Applications for new licences.....	9
3.8 Applications for renewal/transfer of licences .....	9
3.9 Compliance with regulations and licence conditions .....	9
3.10 Compliance with timeframe .....	10
3.11 Approved meters .....	10
Meter installation.....	11
3.12 Recording metering information.....	12
3.13 Estimating meter readings .....	12
3.14 Right of appeals.....	13
Licence condition .....	13
Glossary.....	15
References .....	16
Regional enquiries .....	17
<b>Appendices</b>	
Appendix A .....	14

## Summary

This policy sets out how measuring the taking of water by licensed water users will be required in Western Australia. Measurement of water taking can be done using meters or through a range of other methods including water level gauges in dams.

Effective measuring of the taking of water is essential for good water management and benefits both users and regulators. Information provided by measurement can help licensees to improve water efficiency and enables water trading and transfers. It also helps the Department of Water (department) to better understand how the taking of water affects a water resource and to ensure water users are within their approved entitlements.

Historically many licensees have not been required to measure their water take, except in cases where they have large entitlements (over 500 000 kilolitres per year), or where they are located near an environmentally sensitive area. Instead of directly measuring the water take, the department has previously relied on methods of estimating the amount of water that is likely to be taken and used, such as the typical water requirements for growing crops.

As demand for water has grown and pressure on resources has increased, effective management of our water resources now requires more accurate information that is best obtained through direct measurement techniques. Indirect measurement techniques are generally not precise enough in areas where resources are nearing full allocation and there are many water users.

For this reason, this new policy is being adopted. The policy requires all licences granted for the taking of water to install a department approved measurement device to all drawpoints, unless there is minimal benefit to water management in doing so. Water licence holders will be required to periodically read and submit their meter readings or measurements to the department. Implementation of the policy will be phased, commencing on 1 February 2016 and coming into full effect on 31 December 2020.

# 1 Policy statement

## 1.1 Policy statement

Growing demand for water and changes to our climate are putting increasing pressure on our water resources. The state's water resources are finite, and water take in many areas is approaching, or has reached allocation limits. Effective water measurement has become an essential tool for the department and licensees to effectively manage our resources more efficiently and fairly.

From 1 February 2016 to 31 December 2020 this policy will progressively require licences granted for the taking of water to install an approved measurement device to all drawpoints, record the information from the device/s and regularly provide the information to the department.

## 1.2 Policy principles

This policy is based on the following key principles:

- sustainable use of our water resources
- fair and equitable management of our water resources
- transparent and accountable decision-making
- increased information to inform better water management decisions
- increased security to water entitlement holders.

## 1.3 Policy outcomes

The policy will support the following outcomes:

- increased information to support water resource management decisions of the department
- the information gathered and provided to the department will ensure the sustainability principle is met
- water entitlements will be traded or transferred with increased confidence
- licensees will have reliable data to improve their water use efficiency, and
- improved water management will provide licensees increased security in their water entitlements.

## 2 Background

### 2.1 The need for measuring

The sustainable use of water is essential for Western Australia's economic and social development and the protection of our water-dependent environment. The state's water resources are finite, and water take in several areas is at, or is approaching allocation limits. As our population grows and our economy expands, the demand for water will continue to increase. All of these factors will be compounded by variable climatic conditions, particularly the effects of the drying climate trend occurring in the state's south-west.

Historically, where total licensed water take was considerably below allocation limits, effective management could be achieved by estimating water take through indirect techniques, such as usage rates for the type of crop being irrigated multiplied by the area of crop. Such techniques are still relevant in some cases of medium to low water take, but in the face of increasing demand, effective management of our water resources now requires more accurate information through more direct measurement techniques that are consistent with National measurement standards.

For the taking of groundwater or surface water directly from watercourses, metering provides the appropriate information necessary for supporting:

1 Sustainability, by:

- providing accurate information to support assessment of how the taking of water affects the water resource
- providing information to help accurately assess and define, or update the allocation limits for a water resource
- helping to determine the level of management response needed to maintain sustainability.

2 Licensees, by:

- enabling licensees to accurately measure water usage to better understand their water needs and support business planning and improvement. In many situations, water savings may be used for expanding production or for trading
- improved matching and optimisation of irrigation-to-crop water requirements in agribusiness, thus reducing costs such as energy, fertiliser and chemicals
- improved monitoring of pump and irrigation system performance
- allowing licensees to trade or transfer water entitlements
- increase the level of confidence in the allocation limits through improved management of water extraction and protection of individual rights

3 The water allocation and licensing process by helping the department to:

- ensure granting of water entitlements remain within allocation limits
- ensuring licensees' water take stays within their approved entitlements
- providing sound knowledge and accurate data on which to base decisions
- increase the transparency, fairness and equity of the decisions
- assess and relate the impacts of taking the actual volumes of water to the water resources.

#### 4 Planning by:

- providing accurate water take data and trends in relation to various community/industry applications as a basis for forecasting demand
- determining whether there is sufficient capacity to provide future water needs
- monitoring the performance of allocation plans
- providing data to find the appropriate balance between current and future environmental, economic and social needs.

All of these aspects of water resource management are fundamental if our water resources are to be used fairly, effectively and efficiently.

The department recognises that water measurement may not produce tangible benefits for water resource management in some areas. These matters will be considered on a case by case basis through the licensing process.

## 2.2 Intent

The intent of this policy is to ensure that the department has the information needed to effectively manage the state's water resources, while at the same time licensees have the information for minimising the cost to their business and for optimising their water use.

Effective water management will result in increasing transparency, security and certainty for water entitlement holders.

## 2.3 Legislation

The department administers Western Australia's *Rights in Water and Irrigation Act 1914*. The *Rights in Water and Irrigation Act, 1914*, establishes a legislative framework for managing and allocating the state's water resources. In accordance with this legislative regime, a person may require a licence under section 5C of the *Rights in Water and Irrigation Act, 1914* to lawfully take water from a watercourse, wetland or underground water source.

The *Rights in Water and Irrigation Act, 1914* defines take as:

*'in relation to water, means to remove water from, or reduce the flow of water in, a watercourse, wetland or underground water source...'*

Clause 46 of Schedule 1 to the *Rights in Water and Irrigation Act, 1914* expressly contemplates licensees being subject to metering because it is recognised as an accurate and reliable measuring technique. The Minister may cause meters to be installed on wells or other facilities that are subject to licensing for the taking of groundwater or surface water directly from watercourses. Alternatively, licensees may be required to supply and install meters on such facilities. Where metering may be considered inappropriate, such as in stream dams, indirect measurement may be required.

Metering requirements are currently imposed by licence conditions. Clauses 7 and 15 of Schedule 1 to the *Rights in Water and Irrigation Act, 1914* provide for the imposition of conditions on water licences. *Rights in Water and Irrigation (Approved Meters) Order 2009* specifies provisions relating to water meters approved by the department.

It is the department's intention to develop a new regulation under the *Rights in Water Irrigation Act, 1914*, requiring licensees to install an approved meter to all drawpoint/s and record information from the meter and submit this information to the department, except where there is minimal benefit to water management in doing so. If meters are not appropriate, the department will determine whether there is a need to use an alternative form of measurement, which will be managed through the licensing process.

Until the regulation comes into effect, the department will continue to apply metering requirements through licence conditions.

Clause 24 of the *Rights in Water and Irrigation Act, 1914* allows amendments to be made to licences. Until the regulation is developed, the department intends to use Clause 24 to amend existing licences where necessary.

Regulation 44 of the *Rights in Water and Irrigation Regulations 2000* contains provisions relating to the damage and interference with water meters, objections to meter readings and estimation if a meter malfunctions. There are also provisions allowing the department to cause a test of a meter if there is a concern relating to its accuracy. Random inspections of water meters may be undertaken to ensure compliance with the *Rights in Water and Irrigation Act, 1914*.



## 3 Implementing the policy

### 3.1 How the policy will be applied

This policy supersedes earlier policies or practices adopted by the department associated with metering or measuring the water taken by water licensees, including the department's *Strategic Policy 5.03: Metering the taking of water*.

Application of this policy will be implemented in a staged approach beginning on 1 February 2016. Broad timelines for implementation are set out in section 3.5.

Starting 1 February 2016, licences granted by the department will progressively require water licensees to install an approved measurement device to monitor and report their water take, unless there is minimal benefit to water resources management in doing so.

It is the department's intention to implement this policy through a regulation under the *Rights in Water and Irrigation Act, 1914*. The regulation will require all licences to meter water take unless there is minimal benefit to water management in doing so. If metering is not appropriate in a particular situation, alternative forms of measurement will be considered. Measurement will continue to be managed through the licensing process.

Until the regulation is in place, the policy will be implemented by placing conditions on licences requiring water take to be measured and reported by using an approved measuring device and/or method.

This policy does not apply to unlicensed water take such as domestic garden bores, water users who have a riparian right, or those that are exempt from licensing under Section 26C of the *Rights in Water and Irrigation Act, 1914*.

### 3.2 Exclusions and exemptions from the requirement to measure the taking of water

The department may not require measurement in circumstances where there is minimal benefit to water management. A risk-based assessment process will be used to make decisions about which licences should include the requirement to measure water take. The new regulation will also define which licences may be exempted from the requirement to meter. Where alternative forms of measurement are considered necessary, the department will determine which licences will be excluded.

Licences that may be excluded or exempted include, but are not limited to:

- all water users who do not require a licence. Only licensed use will require measurement.
- licences that have relatively small annual entitlements and collectively will not significantly impact on a water resource. This threshold may be different for water resource areas across the state and will be based on risks to the water resource
- exempted use as defined by the regulations.

### 3.3 Measuring the taking of surface water from dams

For some types of dams constructed to store and take surface water, metering the water pumped out from the dam may not be the most appropriate method to measure the water take. Such dams may be either:

- in-stream dams – which intercept and capture surface water flowing along a watercourse
- off-stream dams – which store surface water that has been diverted from a watercourse, off the main stream channel, rather than water taken through a pipe.

Water losses from such dams include evaporation and leakage losses, which are linked to the surface area and depth of the water stored in the dam, as well as the materials used to construct it. These components of the water balance cannot be easily measured accurately.

For these dams the department will accept the use of indirect methods to estimate the water taken from the water resource. For example, indirect methods may include dam capacity surveys, or dam volumes measured over time with the use of a staff gauge related to a dam capacity survey. The department will work with surface water users to develop acceptable measurement methods for their situation through the licensing process.

### 3.4 Measuring the taking of groundwater and of surface water directly from watercourses

Metering is the primary form of measurement for the taking of groundwater and of surface water from watercourses, given all the water taken passes through a pipe. This includes situations where surface water is directly pumped from a watercourse into a storage dam for use at a later time. Where the department decides that metering will not benefit water management in a particular circumstance, the licence will be considered exempt from metering. In this instance, alternative measurement may be considered through the licensing process.

### 3.5 Timelines for implementation

The department recognises the need to expand water measurement in a cost-effective manner. This will be influenced by factors such as the status of the water resource in question, the size of the entitlement and the market's ability to supply and install meters or alternative measurement devices.

Licences, other than those exempted or excluded will be required to measure the taking of water, within the broad timeframes shown in the table below:

Entitlement category (kL/year)	Implemented by
Licences with allocations of 500,000 kL/yr or more that take water from a: <ul style="list-style-type: none"> <li>• Groundwater resource</li> <li>• Surface water resource that is shared by multiple users</li> </ul>	31 December 2017
60% of single-user surface water licenses in higher-use areas with allocations of 500,000 kL/yr or more	31 December 2017
ALL licenced water users, except those that are exempted or excluded – See section 3.2	31 December 2020

Licensees taking groundwater or surface water may also be required to meter or measure their water take before the scheduled implementation dates in the table above, where one or more of the following circumstances apply:

- measurement or metering is required in accordance with water management or allocation plans, generally in high-risk areas
- where the department identifies adverse trends on water resources and closer management of water take is required to mitigate impacts.
- the use of water requires monitoring because the licensee is taking water near ecologically significant features or may cause impacts to other water users
- where a water entitlement is to be traded or leased, or there is an intention to trade or lease a water entitlement
- the licensee has an agreement regarding the use of part of a water entitlement
- there is a need to quantify water efficiency savings
- there is a potential to change to the resource's environment or ecology as a result of artificially replenishing the resource (for example, the volume or quality of water held, or replenishment method such as Managed Aquifer Recharge)
- where the department considers there is non-compliance with the licence, see section 3.9
- Where the water resource is approaching full allocation and demand is increasing.

The benefits of this implementation approach include:

- tailoring water measurement to licensees' water entitlements:  
The staged approach will afford licensees with small entitlements more time to comply with this policy than holders of large entitlements.
- tailoring water measurement to the likely impact of water abstractions on the resource:  
Licensees holding proportionally large entitlements are more likely to have a greater impact on the water resource and need to be managed more intensively than licensees holding proportionally smaller entitlements.  
In higher risk areas, smaller licences may have a cumulative impact on the water resource, and will also need to be more closely managed.
- simplicity:  
The staged approach is relatively simple and will allow both the department and licensees to implement the policy within a clear and reasonable timeframe.

The department has developed a detailed implementation plan that considers the broad timelines in the table and the circumstances listed above.

### 3.6 Conditions relating to metering requirements

Until a regulation is implemented, the department will place relevant conditions in water licences requiring the taking of water be metered. The conditions will consider:

- The type of meter to be installed (generally a cumulative-type meter that is authorised under the *Rights in Water and Irrigation (Approved Meters) Order 2009*)
- The standard of installation (in accordance with the department's guidelines stated in Section 3.11)
- The water year (increasing certainty in the definition of the water entitlement).
- The date by when the water meter must be installed
- How frequently the licensee is required to record the meter readings (and possibly dates)
- The times when the licensee will be required to forward the meter readings to the department
- How the licensee will be required to forward the meter readings to the department.

Operating strategies for licences must also address metering or measurement requirements and implementation plans within those strategies, see *Operational policy 5.08 – Use of operating strategies in the water licensing process (Department of Water 2011)*.

Specific conditions related to metering and measurement requirements included in licences may vary to take account of local issues, information gained over time, or changing water resource requirements.

### 3.7 Applications for new licences

Until a regulation is implemented, new water licences will be issued with terms and conditions requiring installation of an approved measuring device, including monitoring and reporting requirements. Information will also be provided to licensees about the potential consequences of breaching the measurement conditions.

### 3.8 Applications for renewal and transfer of licences

Licences issued as renewals will carry measurement obligations in terms of the implementation timetable outlined in Section 3.5 and the department's implementation plan. The department will undertake an assessment of the licence application to determine whether or not the applicant falls within one of the categories identified in the implementation plan.

In assessing the application for a licence renewal, the department will review the conditions of the expired licence in accordance with the *Rights in Water and Irrigation Act, 1914*. The formulation of any new measurement conditions will consider this policy.

Where a property is subject to sale, and an application is submitted to transfer a licence containing metering conditions to the new owner, the licensee (transferor) is required to read the meter(s) and provide reading(s) to the department to support their application within seven days before the settlement date. This reading will be used to determine the volume of water that may be taken by the transferee in the remainder of that water year. The remaining available volume will invariably be the original water entitlement less the water already taken by the transferor. Unless amended, measurement conditions affecting the transferor's licence will be transferred and thus bind the transferee.

### 3.9 Compliance with regulations and licence conditions

The requirement to measure the take of water will be set out in regulations and/or licence conditions and will be enforceable under the *Rights in Water and Irrigation Act, 1914*. Enforcement action will be tailored to the significance of the breach and may vary from a warning letter (to first-time offenders) or issuing of directions, to prosecution or reducing or cancelling the licensed water entitlement (for recurring offences).

The department may also undertake meter readings and/or spot audits of meter readings for licence compliance purposes.

### 3.10 Compliance with timeframe

In some instances a licensee may not be able to meet the specified measurement device installation timeframe due to factors outside their control. Licensees affected by such factors should notify the department in writing as soon as possible before expiry of the timeframe. This notification must include supporting documents with the notification and/or request. The department may consider amending the licence condition to allow an extension of up to 12 months. Acceptable reasons for an extension may include, but not limited to:

- Difficulty acquiring, installation and commissioning of an approved meter or other measuring device (for example, the industry is not able to provide the required meter or device in time)
- Lack of availability of skilled contractors or consultants needed to install the meter or measuring device within the specified timeframe, particularly in remote parts of the state
- Delays in the installation due to adverse impacts (such as road closures due to flooding or fire)
- Existing wells are scheduled to be replaced with new ones within six months and the new meters will be installed on the new wells
- The licensee is changing their water delivery infrastructure (for example, installing new irrigation systems, including drawpoints) and the meters or measurement devices will be installed as part of this upgrade. The proposed timeframe for the upgrade cannot exceed a maximum of 12 months.

The applicant's request for a revised timeframe will be considered in light of the circumstances underlying the request. The department will respond to the request where it will either:

- grant a single extension for a limited period for the installation of meters or measuring devices; or
- decline to grant an extension and inform the licensee of the reasons for the department's decision.

### 3.11 Approved meters

Licences with metering requirements will require installation of a meter complying with the *Rights in Water and Irrigation (Approved Meters) Order 2009*.

For meters, the department will specify acceptable measurement equipment in licence conditions. The department uses the Australian Technical Specification 4747, which is applicable to all states and territories.

Measuring entails the calculation of the volume of water being extracted from a particular resource over a finite period of time, or at a particular point in time.

Where there is a requirement to install a water meter, the department requires water licensees to:

- install a cumulative-type meter that is authorised under the *Rights in Water and Irrigation (Approved Meters) Order 2009*; and
- refer to the *Guidelines for water meter installation 2009* when installing water meters.

### **Meter installation**

Licensees should refer to the Guidelines for water meter installation available on the department's website at [www.water.wa.gov.au](http://www.water.wa.gov.au).

Where the department determines that water meters previously fitted are not installed in accordance with meter manufacturer specifications, the department may negotiate achievable timeframes with the licensee for the meter and/or its associated pipework to be corrected. To ensure this negotiation process is successful, the department will:

- formally notify the licensee that the water meter/s and/or existing pipework will require modification/replacement as per the manufacturer's specifications;
- formally request the licensee submits a proposed water meter rectification plan for negotiation and approval. The plan is to provide timeframes to commence and finalise the necessary works.

To ensure meters are properly fitted, within seven days of completing the installation licensees are advised to provide to the relevant regional office of the department the following information:

- the exact location of the meter/s (using Global Positioning System coordinates, if available)
- date the meter/s were installed and the make, size, type and serial number
- photograph and/or a diagram of the meter fitted on the pipework, include dimensions showing lengths of clear pipe before and after the water meter up to the first off-take
- the meter reading at the time of installation
- a copy of the water meter manufacturer's installation specification, or if this is not available, then the relevant installer's authorisation stating that the meter is correctly fitted to meet the manufacturer's recommendations.

There may be cases where the department, either as part of a government initiative or to meet its own requirements, may install water meters for specific licensees.

### 3.12 Recording metering information

Holders of water licences that include metering conditions will be required to periodically read and submit their meter readings to the department. The relevant regulation, licence condition and/or operating strategy will specify the details of these requirements. Generally, water licensees will be required to read their meters at the start of each water year, and in some cases, on a monthly basis. Failure to provide the meter readings within the required timeframe will be regarded as a breach of the regulations or licence conditions.

The department generally recommends that all licensees read their meters more frequently than required by their licence conditions or regulations. This will assist licensees in understanding their water take throughout the year and enable timely changes to the watering management regime, ensuring compliance with licensed water entitlements and assisting with water efficiency.

The simplest and most efficient way for licensees to submit meter readings is by entering them online using the department's new online portal available on the website <[www.water.wa.gov.au](http://www.water.wa.gov.au)>.

If this is not possible, licensees may use a *meter water use card* to record their water metered water take information. *Meter water use cards* for each of the department's regions are available on the department's website at <[www.water.wa.gov.au](http://www.water.wa.gov.au)>.

Licences with operating strategies may include timelines for submitting the information linked to the submission of other reports.

### 3.13 Estimating meter readings

Cases where the department may need to estimate the quantity of water that has passed through a meter may arise due to:

- meter malfunctions
- removal of a meter for repairs and a replacement meter cannot be installed, or
- the meter not being properly installed.

In such cases, the department will use an appropriate methodology taking into account the particular circumstances of the licensee and the period of the estimated time (for example, we may use a different methodology when estimating the water take of an irrigator during the months of July and August compared with that of a process company during the same months). In some cases the department may use a linear (straight line) methodology when estimating a meter reading that falls



between two actual meter readings. In these circumstances it will be assumed that the licensee has taken water at an even rate throughout the period between the two actual meter readings.

The department will notify the licensee in writing of the estimated meter reading and estimated water taken over a particular period.

To help the department estimate water take in cases where the licensee needs to remove the water meter (for servicing, maintenance, calibration etc.), the licensee should contact the relevant regional office of the department before removing the meter. The licensee should provide the department with the reason for removal, and the approximate timeframe and dates the meter will not be in use. When submitting metered water take information to the department, the licensee should include the date and meter reading at the time of removal and the period the meter is not in use.

### 3.14 Right of appeals

#### **Licence condition**

A licensee may request more information about the decision to include conditions to measure or meter water take by writing to the department within 28 days of the licence being issued. A licensee may also apply to the State Administrative Tribunal for a review of the department's licence condition. This can be done by contacting the State Administrative Tribunal directly within 28 days. Details can be found at the website [www.sat.justice.wa.gov.au](http://www.sat.justice.wa.gov.au). Details of how a licensee can apply for a review of a licence condition are provided to a licensee when they are issued with their licence.

#### **Regulations**

A licensee does not have the ability to seek a review of regulations. Licensees are able to defend an infringement notice or enforcement action that relates to a breach of the regulation. The methods for appealing these decisions or enforcement actions depend on the circumstances but may include challenging the action in court, or review by a delegated authority within the Department of Water. The procedure to seek a review depends on the circumstances. For further information, please contact the Department of Water.

# Appendices

## Appendix A.

Telephone (08) 6364 7600

www.water.wa.gov.au

**SAMPLE ONLY**

### Meter water use card

**Licensee:**

---

**Bore/Pump Name:**

---

Irrigation year:	Licence number:
Meter serial number:	Meter size, make and model:
Last meter calibration service date:	Location:

Date	Meter reading		Water consumption (kL) over the period
	Last reading	Current reading	
January 2	342 400	352 400	10 000
February 2	352 400	363 400	11 000
<b>Total abstraction volume</b>			<b>21 000</b>

Comments:

---



---



---

Please refer to your 5C licence for your annual water entitlement

If you are unable to locate your licence contact the Department's Regional Licensing office on (08) 6250 8000

Meter readings must be sent to the Department of Water by the timelines specified in your licence or operating strategy attached to your licence. If there are no specific licence conditions, the information should be sent to the department seven days after the end of the water year.

## Glossary

Allocation	The volume of water which has been allocated for use each year.
Measurement	Refers to measuring or estimating the volume of water that is taken from a water resource. It may be done through a water meter or alternative method such as water level gauges in dams.
Metering	Refers to the measurement of water that is taken from a water resource using a water meter.
Operating strategy	Operating strategies detail the licensee's responsibilities for managing the impacts of taking and using water and specify: monitoring and reporting requirements; methods used to manage impacts on the environment and other water users; water efficiency measures; and contingency plans describing how the licensee will alter their operations to cope with any directions to temporarily reduce water consumption (refer to Operational policy 5.08).
Policy	Refers to a protocol that is adopted by the department to implement legislation or guide its business.
Sustainable limit	The volume of water that can be taken from a water resource system (expressed as an extraction regime) without causing unacceptable impacts.
Water meter	A device for measuring or estimating the volume or flow of water that is approved under the Rights in Water and Irrigation (Approved Meters) Order 2009.
Water use efficiency	Increasing water supply efficiency and water demand efficiency to minimise the taking and use of water.

## References

Australian Technical Standard 4747, <[www.saiglobal.com](http://www.saiglobal.com)>

Commonwealth of Australia *National Framework for Non-urban Meter Standards: Discussion Paper*, Draft 1.4 January 2008.

Department of Water 2009 *Guidelines for water meter installation 2009*, ISBN 987-1-921637-98-8.

Department of Water 2010, *Operational Policy 5.13 – Water entitlement transactions for Western Australia*, ISBN 978-1-921789-75-5.

Department of Water 2011, *Operational policy 5.08 – Use of operating strategies in the water licensing process*, ISBN 978-1-921907-59-3.

Department of Water 2015, *Strategic Policy 5.03 – Metering the taking of water*, ISBN 978-1-921637-78-0.

Government of Western Australia, *Rights in Water and Irrigation Act 1914* as amended.

Government of Western Australia, *Rights in Water and Irrigation Regulations 2000*.

Water and Rivers Commission 2003, *Statewide policy no. 11 – Management of unused licensed water entitlement*, ISBN 1-920687-68-9.

## Regional enquiries

Please direct any enquiries relating to the implementation of this policy or to management of water resources in the regions to the following regional offices:

### **North West Region**

Kununurra regional office  
27 Victoria Highway  
PO Box 625  
Kununurra WA 6743  
Phone: 08 9166 4100  
Fax: 08 9168 3174

Karratha regional office  
Lot 4608 Cherratta Road  
PO Box 836  
Karratha WA 6714  
Phone: 08 9144 0200  
Fax: 08 9144 2610

### **South Coast Region**

Albany regional office  
5 Bevan Street  
Albany WA 6330  
PO Box 525  
Albany WA 6331  
Phone: 08 9842 5760  
Fax: 08 9842 1204

### **South West Region**

Bunbury regional office  
35–39 McCombe Road  
Halifax WA 6231  
Phone: 08 9726 4111  
Fax: 08 9726 4100

### **Swan Avon Region**

Victoria Park regional office  
7 Ellam Street  
Victoria Park WA 6100  
Home: 08 6250 8000  
Fax: 08 6250 8050

### **Kwinana-Peel Region**

107 Breakwater Parade  
Mandurah WA 6210  
Phone: 08 9550 4222  
Fax: 08 9581 4560

### **Mid West Gascoyne Region**

Geraldton regional office  
94 Sanford Street Geraldton  
PO Box 73  
Geraldton WA 6531  
Phone: 08 9965 7400  
Fax: 08 9964 5983

Carnarvon district office  
211 Robinson Street  
PO Box 81  
Carnarvon WA 6701  
Phone: 08 9941 6100  
Fax: 08 9941 4931