Australian Government

Department of Agriculture, Water and the Environment

Pattern approved metering requirements for the Murray–Darling Basin state

May 2021

Cataloguing data
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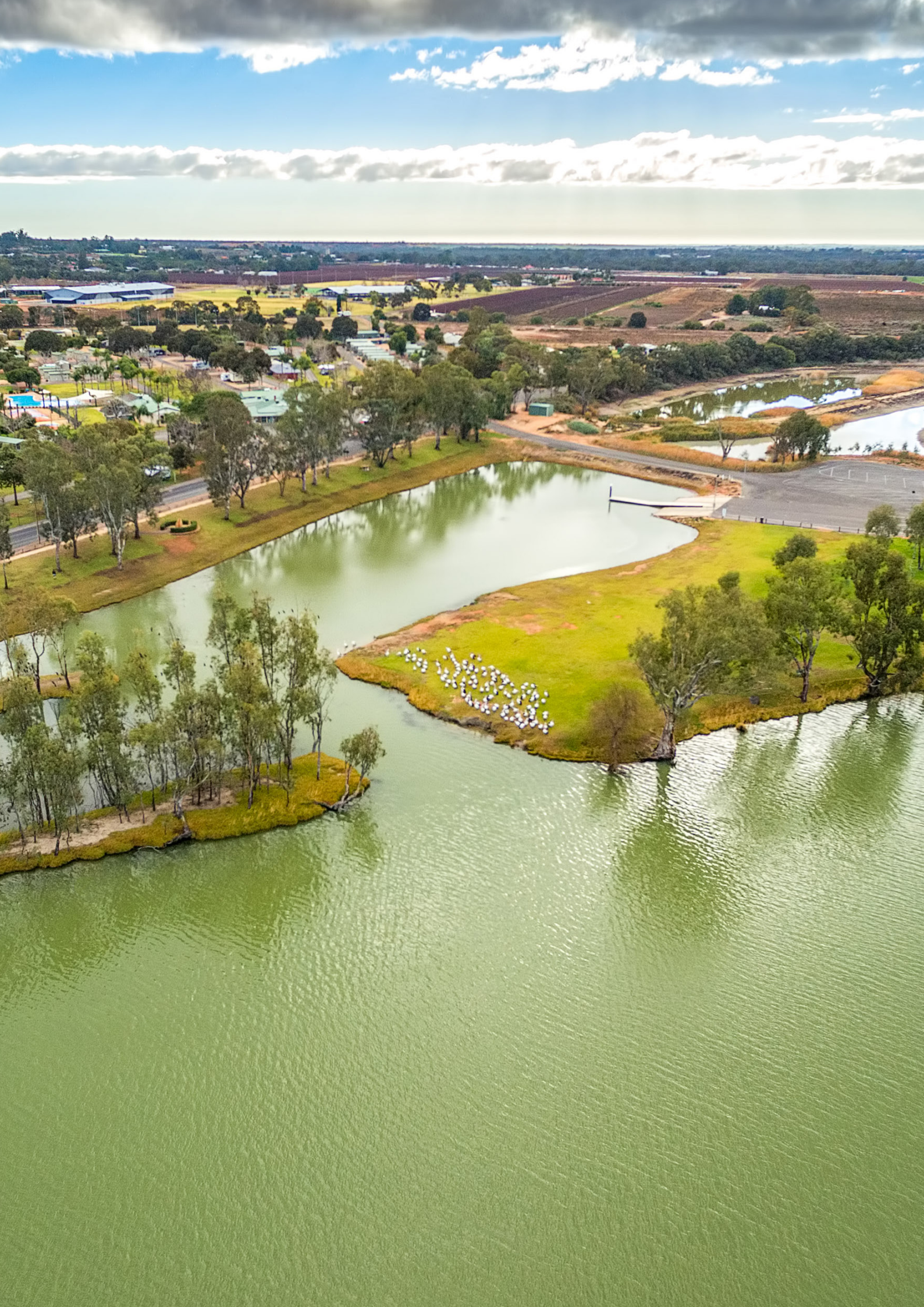

Pattern approved metering requirements for the Murray–Darling Basin state

Purpose

The availability and use of water meters that meet the Australian Standard for non-urban water meters [AS4747] supports community confidence in water compliance arrangements. There is a range of meters available in Australia with new AS4747 compliant meters regularly added to the range.

In June 2018 the Australian Government and the Murray–Darling Basin states agreed to the Murray– Darling Basin Compliance Compact which sets out actions they will take to strengthen compliance with water management rules in the Basin. Part three of the Compliance Compact describes actions related to metering.

This document is published in reference to 3.8 of the Compliance Compact:

> 3.8 The Australian Government and Basin States will work with each other, jurisdictions, testing laboratories, meter manufacturers and industry to set a timetable for delivering a comprehensive range of pattern approved meters.

What is a pattern approved meter?

The National Measurement Institute of Australia checks non-urban water meters for compliance with the Australian Standard for Non-Urban water meters (AS4747). If the meter passes testing, it is pattern approved as compliant with the requirements for closed conduit meters (NMI-M10); or with the requirements for open channel meters (NMI-M11); or with the requirements of equivalent overseas standards.

Value of the information

The following tables indicate the scale of metering requirements from information provided by New South Wales, Victoria, Queensland and South Australia. This information helps to describe the expanding market for Pattern Approved meters across the Murray–Darling Basin.

For further information about the non-urban water meter requirements please contact the appropriate state agency.

New South Wales

Agency: New South Wales Department of Industry

The estimated number and infrastructure sizes of works requiring pattern approved meters under the new NSW metering framework for surface water and groundwater are in the following tables. These figures are indicative, based on best available data.

Number of works requiring a meter in Stage 1

Stage 1 – Largest Users		
Meter size (mm)	Currently metered	Works to be metered under new requirements
500–549	118	182
550–599	2	5
600–649	408	538
650–699	248	349
700–749	6	10
750–899	43	73
900–999	31	50
1,000–1,200	22	32
>1,200	9	18
TOTAL	**887**	**1,257**

Note: Stage 1 includes only pumps of 500 mm or larger.

Number of surface water works in each region that will need to be metered in Stages 2 to 4

	Stage 2 – Northern inland		Stage 3 – Southern inland		Stage 4 – Coast	
Meter size (mm)	Currently metered	Works to be metered under new requirements	Currently metered	Works to be metered under new requirements	Currently metered	Works to be metered under new requirements
0–49	6	9	19	33	13	42
50–99	58	156	151	255	155	572
100–149	271	1,147	530	1,306	693	2,280
150–199	149	434	396	718	106	295
200–249	81	162	299	513	32	79
250–299	48	107	306	519	9	23
300–349	70	153	456	727	15	30
350–399	53	86	213	322	0	9
400–449	153	246	180	257	0	5
450–499	19	48	55	73	1	3
TOTAL	**908**	**2,548**	**2,605**	**4,723**	**1,024**	**3,338**

Note: For stages 2 to 4, multiple works on a single licence, work approval or landholding that meet the metering thresholds are included.

Number of groundwater works in each region that will need to be metered in Stages 2 to 4

	Stage 2 – Northern inland		Stage 3 – Southern inland		Stage 4 – Coast	
Meter size (mm)	Currently metered	Works to be metered under new requirements	Currently metered	Works to be metered under new requirements	Currently metered	Works to be metered under new requirements
<50	20	57	106	275	1	360
50–99	1	7	13	28	0	1
100–199	137	826	161	536	18	53
200–299	441	1,391	336	673	13	785
300–399	424	982	369	564	4	123
400–499	210	404	189	252	3	31
500–599	150	239	68	104	0	4
600–699	23	53	47	72	0	8
700–799	4	28	14	24	0	6
800–899	5	8	7	15	0	0
900–999	16	88	8	23	1	22
1,000–1,199	40	151	1	8	0	71
>=1,200	202	651	7	32	16	934
Excavations	24	168	13	49	0	259
TOTAL	**1,697**	**5,053**	**1,339**	**2,655**	**56**	**2,663**

Notes: Works smaller than 50 mm include spear points, which will require a meter under the new framework. Many of the works that are larger than 1,200 mm are wells.

The size of groundwater works is based on the outside diameter specified on the drilling certificate (Form A). While the requirement to have a meter is based on the authorised work, the meter installed may be smaller, depending on other aspects of the infrastructure (e.g. pipe or pump size).

Victoria

Agency: Victorian Department of Environment, Land, Water and Planning

Victoria has comprehensive non-urban water metering. Victoria's rural water corporations manage around 47,000 meters. The following table is based on best available data provided in good faith by these water corporations.

Number of non-urban water meters in Victoria

Meter type/size	Unregulated system	Regulated system
Open Channel > 5,000 ML/Yr	0	1
Closed Conduit > 5,000 ML/Yr	7	37
Open Channel	0	2,611
Closed Conduit	3,842	35,967
Ground Water	4,454	2
Total	**8,303**	**38,618**

Queensland

Agency: Queensland Department of Regional Development, Manufacturing and Water

The development of a new state-wide water metering policy is being considered. However, the Murray– Darling Basin remains our priority.

Meter fleet – Queensland state-wide requirements (approx.)

Queensland has around 5,000 non-urban water meters (outside of water supply schemes) in service across the State. Of these, around 1,400 meters are in the Murray–Darling Basin.

The new and replacement meters required state-wide is dependent on the finalisation of any new water metering policy and is difficult to forecast at this time; a further update will be provided upon finalisation of a new policy.

Following are projected requirements for the ***Queensland part of the Murray–Darling Basin***, only.

Meter size (mm)	Current number of meters	Potential new meters
<100	700	2,000
101–200	450	1,800
>201 (including channel meters)	250	500
TOTAL	**1,400**	**4,300**

South Australia

Agency: South Australian Department for Environment and Water

The South Australian Implementation Plan for meters anticipates a gradual implementation of new pattern approved non-urban water meters. Except where they fail beforehand, meters installed across South Australia will be replaced with AS4747 compliant meters after 30 June 2019 as they progressively come to the end of their operational life.

The following metering requirements table contains information prepared in 2008. The *Meters to be installed* row of the table refers to meters in the Eastern and Western Mount Lofty Ranges which were installed between 2012 and 2014. Considering an average meter life of 15 years, it is likely that South

Australian's entire meter fleet (over 13,700 meters) will be refreshed with AS4747 compliant meters by 2034.

Meter size (mm)	Ground water	Surface water (Murray)	Meters to be installed	Meters within irrigation districts	Max flow rate (KL/h)	Max flow rate (ML/d)
<50	471	68	595	4,552	<16	<0.4
50–100	3,285	485	7,230	477	25–100	0.6–2.4
101–200	2,160	671	270	2,488	150–400	3.7–9.5
201–375	408	207	0	3	500–1,400	12–33
376–499	4	21	0	1	1,600–2,000	38–50
>=500	0	16	0	0	>2,500	>60
Unknown sizes	75	0	5	780	N/A	N/A
TOTAL	**6,403**	**1,468**	**8,100**	**8,301**		

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