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*Submission to NSW Government on:*

*Draft NSW Water Management (General)  
Amendment (Metering) Regulation 2018*

*By:*

*Gwydir Valley Irrigators Association Inc*

*September 2018*



*making every drop count*

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## 1 Summary and Purpose

This document has been developed by the Gwydir Valley Irrigators Association (GVIA) on behalf of its members as a formal submission for consideration by the NSW Government during their consultation on the draft Water Management (General) Amendment (Metering) Regulation 2018 “draft regulations”.

This document aims to represent the concerns, views and experiences of our members, not as individuals but as a local industry. Each member reserves the right to express their own opinion and is entitled to make their own submission.

Every member of the GVIA is also a member of the NSW Irrigators Council and as such we endorse their submission unless clearly outlined otherwise.

## 2 Introduction

The Gwydir Valley Irrigators Association (GVIA) as the representative body for irrigation entitlement holders in the Gwydir Valley, supports the NSW Government in making informed, balanced and decisive action to improve confidence in how water is being administered, managed and used in NSW. We welcome the opportunity to provide feedback on the draft Water Management (General) Amendment (Metering) Regulation 2018 the “draft regulations”.

We believe that all water take must be measured with the majority of take metered through highly accurate devices<sup>1</sup>. All measurement must be auditable, verifiable and within accuracy requirements, but that accuracy and measurement methodology may vary according to the perceived and actual risks from water extraction.

The Gwydir Valley is a diverse region of regulated, groundwater and unregulated water take, and the standard of measurement is high, with active irrigators adopting the most accurate technology commercially available<sup>2</sup>. Irrigators adopt high accuracy technology at their own cost, due to the high value of their asset and because it meets their requirements to know exactly how much water they have at any point in time. Irrigators in our region, couldn't be the industry leaders in water-use efficiency, if they didn't have this standard of information.

Despite our support for firm regulations and our high standard of metering, we are subsequently alarmed that the aspirational timeframes within the draft regulations have not considered many of the barriers outlined within the Water Reform Action Plan submissions and are likely to expose the government and industry to non-compliance, despite the best intentions of our members to meet their obligations.

Further to this recent member feedback highlighted that resources, availability of appropriate meters or whether a suitable meter was available for specific installation sizes and water availability will significantly undermine our region's ability to meet the metering requirement in the timeframes outlined in the draft regulations. Further to this, a number of these

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<sup>1</sup> Independently verified of within +/-5% in the field.

<sup>2</sup> The GVIA surveyed members regarding their meter fleet in early 2018 with 92% of respondents using a meter to measure their water take with 77% of all water take measured via a current model electromagnetic meter.

regulatory obligations will result in perverse measurement outcomes which are untrainable by industry.

We have as a result provided 11 specific recommendations below in Section 2.1 that outline considerations for revised timeframes that allow for a re-focusing of priorities and alternative methodologies to achieve compliance, so that the community can have confidence that high risk water users are prioritised and that a high percentage of water extraction continues to be metered as accurately as commercially possible. We have provided recommendations for information that the NSW Government can provide to better communicate to water users their requirements and assist third-parties in meeting their obligations as duly qualified persons.

The GVIA will continue to support accurate, reliable and verifiable water metering in our region and believes that government policy and regulation should encourage this in a practical, cost-effective and fit for purpose way. We support amending the draft regulations to enable these metering objectives to occur as efficiently as possible.

## 2.1 *List of Recommendations*

1. We recommend that regulation flowcharts are prepared to guide advice to water users on their requirements including accuracy and timeframes in a simple to follow diagram (see examples in Figure 1 and Figure 2).
2. We recommend that the NSW Government prioritises the implementation of metering requirements in installations above the stipulated thresholds for surface water and groundwater during the first five-years, regardless of whether the water sharing plan requires a meter or it is an at risk water source.
3. We recommend the NSW Government establish clear protocols allowing individuals to decommission works approval sites that do not have licensed water attached or do not have a history (greater than five-years) of accessing allocation, to be decommissioned via inspection, so that the works approvals remain valid but that they are excluded from metering requirements for the term of the certificate (period of up to five years).
4. We recommend that the regulations be amended to provide an allowance for the installation of ISO12242:2012 standard meters when there is not an AS4747 pattern approved meter or a choice of AS4747 meters available to install.
5. We recommend that the requirement to replace existing meters or install only pattern approved meters is aligned with the first implementation deadline of 1 December 2019.
6. We recommend that timeframes for non-priority water users above the minimum thresholds are extended by at least one-year and that if options to retrospectively install tamper proof seals are installed to provide confidence in tamper proof water take measurement, then the timeframes can be further extended if barriers exist to implementation.
7. We recommend that telemetry conditions are staged on a separate timeframe to metering regulations on a valley-by-valley approach to ensure that the information value adds to water management and new technology options can be explored.
8. We recommend that telemetry does not need to be installed by a duly qualified person.
9. We recommend that the NSW Government provide:

- a. A current list of pattern approved meters, their application (surface water of groundwater) and specifications (diameter and flow-rate) on their website.
  - b. A proforma of what is required from manufacturer regarding the factory performance of meters (for example, is this for an individual meter or for a meter in a batch).
  - c. Protocols for providing in-field verification of meter accuracy with an intention to providing supporting documentation to a validation certificate.
10. We recommend that mandatory conditions relating to recording of the purpose of water being taken and that flow conditions are re-drafted to address their purpose and exclude regulated and groundwater water users for which the requirements are not intended.
11. We recommend that the five-year review also includes the following considerations:
- a. Whether further investment in metering below the minimum thresholds in areas where the water sharing plan requires a meter or it is an at risk water source.
  - b. Whether telemetry has provided additional benefits to water users and should be rolled out to lower priority water users.
  - c. Whether the opportunity to install ISO accredited meters is still required after five-years of implementation.

## 3 About the GVIA

### 3.1 Our region

The Gwydir Valley Irrigators Association (GVIA) represents more than 450 water entitlement holders in the Gwydir Valley, centred around the town of Moree in North-West New South Wales. Our mission is to build a secure future for its members, the environment and the Gwydir Valley community through irrigated agriculture.

The Moree Plains Shire region alone is highly dependent on agriculture and irrigated agriculture for economic activity contributing over 72% of the value of gross domestic product (cotton is around 60%), employing 20-30% of the population and accounting for almost 90% of exports from the Shire<sup>3</sup>.

The 2011 agricultural census estimates that the total value of agricultural commodities for the Moree Plains Shire region was \$911,951,079 up from \$527,744,851 in the 2005-06 census. This is an estimated 7.83% of NSW's total agricultural production from a 1,040,021Ha principally used for agricultural crops<sup>4</sup>.

The Gwydir is characterised as having low water reliability with most water held as general security water with a reliability of 36% (that means irrigators could expect in the long-term just over a third of their entitlement can be accessed). Supplementary water entitlement is somewhat more reliable with 55% but accounts for less than a quarter of the total volume. Groundwater reliability is considered 100% but there is less than 30,000ML available.

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<sup>3</sup> Cotton Catchment Communities CRC Communities and People Series 2009

<sup>4</sup> 2010 2011 Agricultural Census Report – agdata cubes, 71210D0005-201011 Agricultural Commodities, Australia

The total volume of water available to be accessed by irrigators has been reduced significantly over time due to reforms as outlined below in Table 1: Summary of Water Reform. Entitlements owned for environmental purposes totals more than 186,000ML, which includes an Environmental Contingency Allowance of 45,000ML. The NSW and Commonwealth environmental water managers are now responsible for 28.5% of high security entitlement, 29% of general security entitlement and 13% of supplementary entitlement for environmental use. Despite environmental water being held in the Gwydir prior to the first water Sharing Plan. Environmental water is primarily used to contribute waterbird and fish breeding events and to maintain the condition and extent of the internationally recognised Gwydir Wetlands but as the portfolio has grown, so has the application and use of environmental water.

As a result, only approximately 19% of the total river flows are available for diversion for productive use<sup>5</sup>. This equates irrigators holding 575,000ML from regulated entitlement (high security, general security and supplementary water) and 28,000ML available from groundwater aquifers.

**Table 1: Summary of Water Reform**

Year	Program	Volume of entitlement
1970	Creation of replenishment flow	5,000ML
1995	Murray-Darling Basin 1993/94 Interim Cap established to limit future growth in access	
1996	Voluntarily reduced their general security reliability by 5%, by establishing the original Gwydir Valley Environmental Contingency Allowance (ECA) of general security equivalent water.	25,000ML General Security
2004	Gwydir Regulated River Water Sharing Plan further reduced reliability by 4%, primarily through increasing the ECA and enhancing its use and storage provision. Rules created for the WSP also reduced access, particularly to supplementary flow previously known as high flow.	20,000ML General Security
2006	Lower Gwydir Groundwater Source Water Sharing Plan reduced groundwater entitlements from 68,000 megalitres to 28,700 megalitres.	39,300ML Groundwater
2008 +	NSW State Government has purchased general security entitlement as well as supplementary for wetlands recovery programme.	17,092ML General Security 3,141ML Supplementary
	NSW Government infrastructure works	1,249ML High Security
	Commonwealth buy-back program.	88,133ML General Security 20,451ML Supplementary
2016	Commonwealth infrastructure programs.	4,508ML High Security

<sup>5</sup> Based on IQQM long-term modelling and the volume of water purchased for the environment

Year	Program	Volume of entitlement
		1,392ML General Security
<b>TOTALS</b>		5,757 High Security 156,617ML General Security (including ECA) 23,592 ML Supplementary

The main broad acre irrigated crop is cotton with irrigated wheat, barley and Lucerne also occurring depending on commodity prices. The total broad acre irrigated area is approximately 90,000 ha (although recent analysis indicate that maximum planting area is now 70,000ha) but is rarely cropped in one year. In 2010-11 census data indicated the total production value of irrigated cotton was \$623M and is estimated to be worth three times that to the local community using the Cotton Catchment Communities Research Corporation economic multiplier for cotton regions<sup>6</sup>.

Currently there are also pecans, walnuts, oranges and olives being grown within the region covering approximately 1,500 hectares and generating an estimated \$31M with considerable benefits to the local community as a high intensity, permanent crop. There is significant potential for expansion into horticulture and improvement in water utilisation but the area of expansion is limited by the availability of high security water.

Changes in water availability either through climate or government policy has a direct impact on the productivity of the region as well as on the local economy. Analysis by the Murray Darling Basin Authority highlighted this relationship during the northern review and revealed that for both Moree and Collarenebri social and economic indicators declined through 2001 to 2011 including education, economic resources and disadvantage, resulting in an estimated 200 jobs lost due to the implementation of the Basin Plan in the region<sup>Error! Bookmark not defined.</sup>.

### 3.2 What we do

The GVIA's mission is to build a secure future for our members, the environment and the broader Gwydir Valley community through irrigated agriculture, we can do this together by making every drop count in the river or the aquifer, on-farm, for the environment, or for our community<sup>7</sup>.

GVIA members hold entitlements within the Gwydir regulated and un-regulated surface water areas, in addition to groundwater resources. All of which are managed through water sharing plans, which have been progressively developed since early 2000.

The GVIA organisation is voluntary, funded by a nominal levy, cents/megalitre on regulated, unregulated and groundwater irrigation entitlement. In 2016-17 the levy was paid and

<sup>6</sup> Social and Economic Analysis of the Moree Community, 2009. Cotton Catchment Communities CRC

<sup>7</sup> For more information, see our corporate video on <https://vimeo.com/177148006>

supported by more than 84% of the eligible entitlement (excludes entitlement held by the NSW and Commonwealth governments).

Much of the activity of the association revolves around negotiating with government at a Federal, State and Local level to ensure the rights of irrigators are maintained and respected. While the core activities of the Association are funded entirely through the voluntary levy, the Association does also undertake programs to maintain and improve the sustainability of members on-farm activities and from time to time, undertakes special projects, which can be funded by government or research corporations.

The Association is managed by a committee of a minimum 11 irrigators and employs a full-time executive officer and a part-time administrative assistant, as well as hosting a Project Officer funded through the Cotton Research and Development Corporation, the Gwydir Valley Cotton Growers Association and the GVIA.

The GVIA and its members, are members of both the National Irrigators Council and the NSW Irrigators Council.

### 3.3 Contacts

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Chairman: Joe Robinson

Executive Officer: Zara Lowien

## 4 Consultation Questions

The GVIA encouraged attendance of members at the local consultation session and provided documentation and analysis to members prior to undertaking a series of small member meetings in areas where we considered there to be challenges for individuals. We therefore, took a streamlined approach to addressing the consultation questions that we identified as most relevant and as such, we have only addressed those questions and not all of those outlined in Attachment A of the consultation paper.

The following sections represents our position on those questions with an aim at providing specific feedback where the draft regulations would not be practical to implement in our valley for our members or where, information would assist members in meeting these new obligations.

### 4.1 Question 1: Ability to determine your requirements?

The GVIA presented the following flowcharts in Figure 1 and Figure 2, to members to help them to identify their requirements. We recommend that a similar approach is made when the regulations are finalised. Generally, members could interpret their requirements through the assistance of this process.

Figure 1: Flowchart for surface water users: All regulated, unregulated and licensed stock and domestic in the Gwydir Valley.

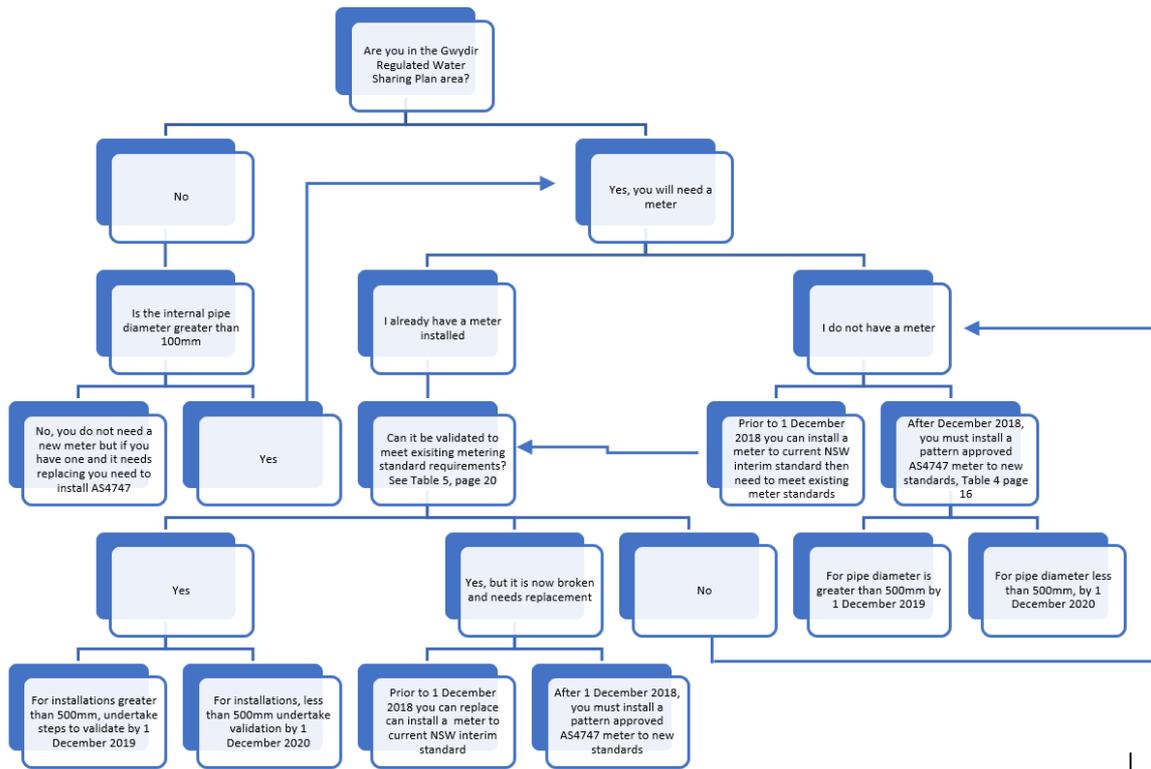
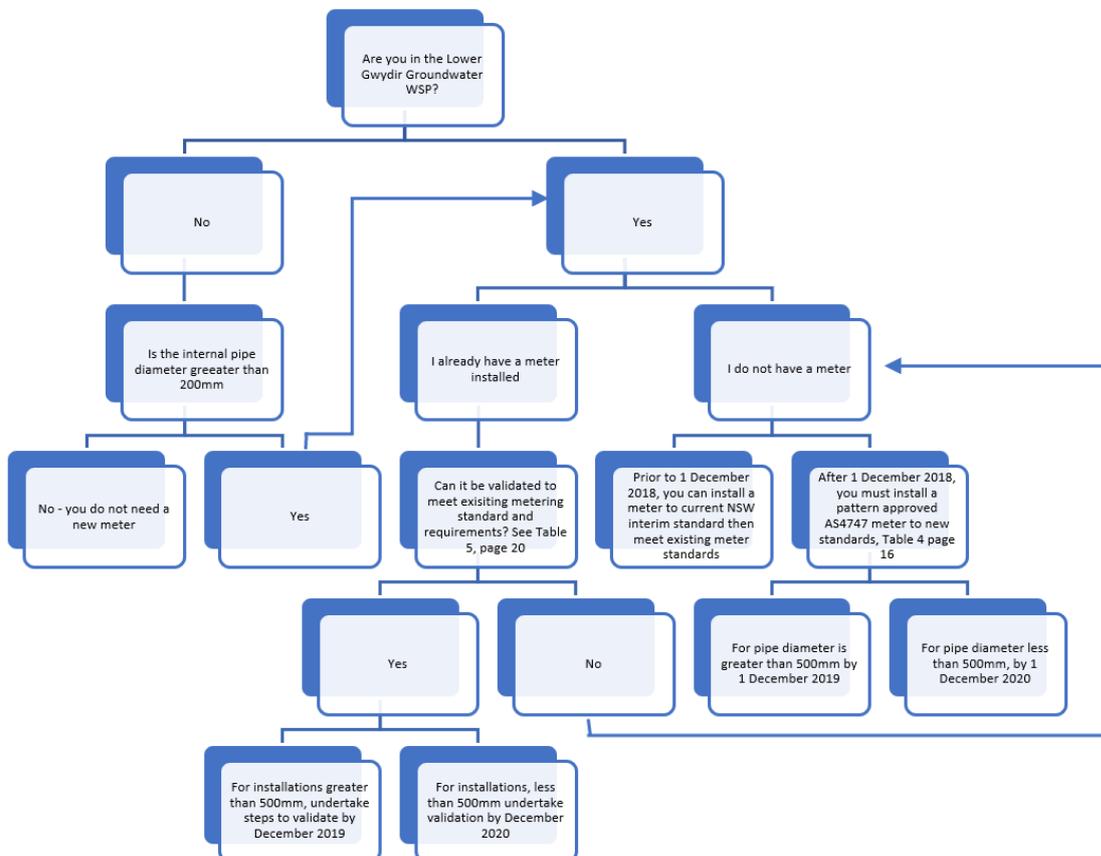


Figure 2: Flowchart for groundwater users.



**We recommend that regulation flowcharts are prepared to guide advice to water users on their requirements including accuracy and timeframes in a simple to follow diagram (see examples in Figure 1 and Figure 2).**

However in presenting these flowcharts there were a number of anomalies identified and issues addressed. These being:

- There is a lack of clarity around the implementation of the thresholds for regions where either the licence condition or water sharing plans require a meter. This is further complicated by the list of at risk water sources. Greater clarity must be provided for users.
- The Gwydir Regulated Water Sharing Plan and Lower Gwydir Groundwater Water Sharing Plan requirements for measurement of water take via Minister's approval does not equate in practice to a water meter for all installations. Alternative measurement devices are currently in use for certain sized licences as outlined in the 2007 NSW Water Extraction Monitoring Policy<sup>8</sup>. To assume that a meter exists therefore is not a straight-forward assumption and may significantly burden those who are below the threshold and have small licences.
- Consideration for requirements for individuals when there is infrastructure (although not functioning) and no licence attached, particularly zero water access licence farms where the individual does not want to relinquish the work approval.
- Consideration for reduced requirements for individuals that do not use their licence and have a history of trade and have infrastructure but it is not utilised.
- Requirement to replace meters after 1 December 2018 with AS4747 pattern approved technology (to be discussed in following section).
- Availability of pattern approved meters above 600mm diameter with no pattern approved meter greater than 1200mm (to be discussed in following section).
- Timeframes for validation and verification of current meters and new installations (to be discussed in following section).
- The requirements and need for telemetry (to be discussed in following section).

#### 4.1.1 *Staged-priorities*

While we support the current proposed thresholds and have not had significant feedback regarding the cumulative threshold calculations, we recommend that all take above these thresholds is prioritised for implementation prior to the pending five-year review. For all water take below these thresholds, regardless of whether they are in at risk water sources or are currently required to have a meter, should be staged following the 5-year review where an assessment of whether further implementation, below the thresholds is warranted to address the metering objectives and it cost-effective and fit for purpose. Individuals who have a meter or are using an alternate measurement device, should continue to do so until the thresholds are reviewed.

This provides greater clarity for individuals by establishing a straightforward list of requirements and acknowledges the low risks associated when extraction is below the

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[http://www.water.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0003/548454/price\\_tput\\_water\\_extraction\\_monitoring\\_policy.pdf](http://www.water.nsw.gov.au/__data/assets/pdf_file/0003/548454/price_tput_water_extraction_monitoring_policy.pdf)

thresholds, as well as the limitations to supply and resources to meet requirements whilst recognising the current capabilities in metering.

**We recommend that the NSW Government prioritises the implementation of metering requirements in installations above the stipulated thresholds for surface water and groundwater during the first five-years, regardless of whether the water sharing plan requires a meter or it is an at risk water source.**

#### 4.1.2 Decommissioned works

Due to the high volume of water recovered through Commonwealth Government's buy-back and the development of the water market, there are a number of works approval sites within the Gwydir which have zero water access licences attached to them as well as, many sites where licensed volumes are regularly traded and not used at the site. With the current regulations linked to works approvals, if the works in question are above the threshold or as it currently stand, if they were in particular water sources (both the Gwydir Regulated and Lower Gwydir Groundwater areas do not have threshold exemptions), the owners of these sites would be required to install meters, regardless of whether they are actively extracting water for irrigation.

We consider this to be a perverse outcome of the policy, as the requirement to install a meter in these circumstances does not address the intent of the framework, to provide confidence that water usage is accurately and reliably metered and presents a low level of risk to this overall objective. Although we note that under both scenarios there is 'potential' to take through either the linking their works approval to another location that has licensed water, pumping without a licence or electing to utilise their licence. These risks can be mitigated either through existing penalties within the *NSW Water Management Act (2018)* or through the establishment of a decommissioning certificate (or exemption) whereby, individuals can have their works inspected by a duly qualified individual to certify that the works are decommissioned i.e. there is no pumping infrastructure installed to take water or that this infrastructure is sealed or seized. Individuals with a valid decommissioning certificate will not have to meet the metering requirements. If an individual wants to utilise the works, then the relevant metering requirements would need to be met. Anyone who pumps without a licence, while a decommissioning certificate is in place can then be penalised using existing provisions under the Act.

**We recommend the NSW Government establish clear protocols allowing individuals to decommission works approval sites that do not have licensed water attached or do not have a history (greater than five-years) of accessing allocation, to be decommissioned via inspection, so that the works approvals remain valid but that they are excluded from metering requirements for the term of the certificate (period of up to five years).**

#### 4.2 Question 4: Are there any barriers to implementing the proposed metering standards that should be considered?

The following key barriers to implementation were identified during our own consultation:

- Requirement to replace meters after 1 December 2018 with AS4747 pattern approved technology.
- Availability of pattern approved meters above 600mm diameter with no pattern approved meter greater than 1200mm or for more than 300megalitre/day pump capacity.

- Timeframes for validation and verification or installation for all water sources.
- Availability of water to undertake verification.
- The requirements and need for telemetry in low risk water sources, particular unregulated an alluvial systems.

The Gwydir Valley is a diverse region of regulated, groundwater and unregulated water take, and the standard of measurement is high, with active irrigators adopting the most accurate technology commercially available<sup>9</sup>. Irrigators adopt high accuracy technology at their own cost, due to the high value of their asset and because it meets their requirements to know exactly how much water they have at any point in time. Irrigators in our region, couldn't be the industry leaders in water-use efficiency, if they didn't have this standard of information.

At a minimum each of these 900 or more sites within the Gwydir Valley will need to have their meter installations validated within the first two years of the implementation timeframe. With half of those to be prioritised under the current timeframes due before 2019. It is also estimated that about a third of these high priority sites will require a replacement meter due to it being mechanical or older generation technology.

Whilst we support a staged rollout and the identification of prioritised sites to address what the community deems high risk water take<sup>10</sup>, we continue to be concerned with the timeframes for implementation, which will expose water-users, who genuinely want to meet their requirements but cannot in the timeframes, undermining the intent of the regulatory reform in the first place.

The key barriers as outlined in our submission to the Water Reform Action Plan Water Take Measurement paper include a lack of duly qualified people, supply or appropriate meters or a meter that can meet the requirements of AS4747 in their installation category. The current draft timelines are aspirational at best and potentially disastrous for the government and industry if they indeed cannot be delivered upon. Further balancing the need for action and the practical limitation of achievement must occur.

The following sections represent a summary of reasons, we believe that the timeframes outlined will expose water users and the NSW Government to non-compliance into the near future and that further consideration to the practicalities of these must be undertaken.

#### 4.2.1 Resources

Currently, there are only six Irrigation Australia Limited certified meter validators and installers in the North-Western region, with two based in Moree<sup>11</sup>. Meter validation in the Gwydir Valley alone will take the two Moree suppliers working full time, five-days a week without holidays for 1.7 years straight to visit all sites. This is assuming that one site can be

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<sup>9</sup> The GVIA surveyed members regarding their meter fleet in early 2018 with 92% of respondents using a meter to measure their water take with 77% of all water take measured via a current model electromagnetic meter.

<sup>10</sup> As referenced to greater than 500mm diameter pipe installations.

<sup>11</sup> <https://www.irrigationaustralia.com.au/search-directory/search/?command=getresults&SearchLocation=2400&LocationRadius=250&Filter::Category::SelectOne=Certified+Meter+Installer>

validated each day and that any new site installations can also be accomplished in the same day. This analysis doesn't address:

1. That local suppliers do not have time in their schedules to take on new work until early to mid-next year;
2. Whether works approval site requirements need amendment to comply with installation requirements;
3. Whether new meters can be sourced;
4. Whether new meters exist; or
5. If suppliers service surrounding areas.

#### 4.2.2 Availability of appropriate meters

The draft regulations clearly outline that the NSW Government wishes to pursue a single standard, the Australian Standard AS4747 for non-urban water take. As we've previously outlined, it does so without accepting its limitations in regions like the Gwydir Valley and the likelihood that it may drive perverse measurement outcomes and not meet our key objectives to have an auditable, verifiable and accurate measurement system that re-build's the community confidence in water administration and management.

This is particularly relevant when you accept that there is a narrow range of meters that are pattern-approved<sup>12</sup> and that there are limited meters suitable for surface water installations greater than 600mm and there are no meters available for installations greater than 1200mm or for pump capacities greater than 300 megalitres per day. The limitations of supply and availability of pattern approved meters is further compounded if the requirement to replace existing meters after 1 December 2018 with a pattern approved meter remains, where will may have 10-20% of Gwydir sites that will not have a meter in their installation category available to install. The current regulations provide no process on how water users will address this issue other than allowing the ability to lodge a 91i, which would result in a less than desirable measurement outcome for the remainder of the irrigation season.

For any measurement strategy to be cost-effective and provide user choice, there must be multiple meters in each size category to fulfil a need for 'readily available' meters and healthy competition rather than government dictated market share. The current list of available meters, even with the potential for new entrants such as the Mace series three or the family of Aquamaster meters, may not address our concerns over market availability.

While we appreciate the NSW Government is sending a clearer market signal to current meter manufacturers than that previously provided, the current limitations in markets ability to respond in these larger installation categories exposes water users and the NSW Government to significant non-compliance through no fault of their own.

With no known meter to be pattern approved to AS4747 in pipe diameters greater than 1200mm or pump capacities greater than 300 megalitre per day and limited options in greater pipe diameters greater than 600mm, we also recommend that an allowance to replace existing meters or install new meters in these installation categories, can occur provided the meter meets international testing requirements like ISO12242:2012<sup>13</sup> and can

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<sup>12</sup> Provided in Attached E of the consultation paper.

<sup>13</sup> <https://www.iso.org/standard/51289.html>

be then also be validated. The ISO standard provides installation requirements and specifies performance testing of the meter but does not restrict size of the meter. Allowing ISO standard testing and meter installation will provide water users in these categories an accurate alternate to achieve compliance rather than exposing them unnecessarily to non-compliance.

The opportunity to install ISO accredited meters can then later be reviewed as part of the five-year review and an assessment of the number of AS4747 meters available in each installation category.

**We recommend that the regulations be amended to provide an allowance for the installation of ISO12242:2012 standard meters when there is not an AS4747 pattern approved meter or a choice of AS4747 meters available to install.**

#### 4.2.3 Timeframes

The ability to meet the implementation timeframe in the Gwydir are the single largest concern for industry and water users. In recognition of the above limitations, we therefore recommend that there be several amendments made to the timeframes.

The requirement to install only pattern approved meters from 1 December 2018 must be aligned to the first implementation deadline of 1 December 2019 to provide:

1. The market additional time to seek pattern approval for large installations;
2. User choice for meter selection, reducing the burden on supply and maintaining market competition; and
3. Scope to replace existing meters that break down during the current irrigation season which can then later be validated.

**We recommend that the requirement to replace existing meters or install only pattern approved meters is aligned with the first implementation deadline of 1 December 2019.**

The implementation timeframes for non-priority water users above thresholds (but below 500mm) should also be re-evaluated, to consider the cumulative impact of requiring resources to replace existing meters or validate meters is better understood. We recommend consideration to the sealing of these meters in the first-instance to provide confidence that water take is being measured and a more considered implementation timeframe be provided.

**We recommend that timeframes for non-priority water users above the minimum thresholds are extended by at least one-year and that if options to retrospectively install tamper proof seals are installed to provide confidence in tamper proof water take measurement, then the timeframes can be further extended if barriers exist to implementation.**

Furthermore, as outlined in Section 4.1. when individuals are below the thresholds are not required to install a meter (and only maintain a meter if they have one) for the first five years of the implementation timeframe to be reviewed as part of the five-year review, when the risk and benefit to water resources are better understood.

#### 4.2.4 Water availability

In recognition of current water availability and the uncertainty of future allocations, it is likely that in some water users may not have water available to validate a new meter or verify an

existing meters accuracy. Allowances must be provided on a case-by-case basis if this occurs.

#### 4.3 Question 5: What additional information should be included in the telemetry and data logging protocol?

The information outlined in the telemetry protocol appear achievable and that there are technology improvements in this area being developed rapidly to meet current barriers. However, water users continue to question the intent and purpose of telemetry requirements given the current capacity of the NSW Government systems to capture and disseminate water licencing information and the level of risk of some water users i.e. below the targeted high priority threshold of 500mm diameter installations. They are acutely concerned that they will strive to be telemetry ready, at significant cost by their implementation date but that there is no subsequent detail from the government on the purpose of this information and whether they can accept it. As outlined in our Water Reform Action Plan submission, the purpose and intent of adding telemetry over and above the Australian Standards must be clearly defined by Government, which remains unclear today.

The GVIA believes that while telemetry provides additional evidence to the community that objective water take data is directly communicated to the relevant authorities, it should not replace the process of regularly reading water meters or inspecting infrastructure by these relevant authorities. Therefore, telemetry should be considered by the NSW Government as a tool to better manage NSW's water resources and should not replace existing tools to ensure compliance with individual licence conditions. We consider it appropriate that data logging capabilities are required by all meters (AS4747 pattern approved or not) and that telemetry requirements could be revised depending on the level of risk and the benefit to water management. This suggest that telemetry implementation timeframes can be further extended on a separate staged approach on a valley by valley basis, rather than as part of the current metering regulations. This will provide authorities the best opportunity to ensure that it adds value to current water management.

**We recommend that telemetry conditions are staged on a separate timeframe to metering regulations on a valley-by-valley approach to ensure that the information value adds to water management and new technology options can be explored.**

#### 4.4 Question 6: Should telemetry be installed by a duly qualified person?

Notwithstanding the above recommendation, the GVIA does not consider there a need to have a duly qualified person for telemetry as it provides an add-on benefit to water management and compliance and the data-logging capabilities of the meter remain the key recording component.

**We recommendation that telemetry does not need to be installed by a duly qualified person.**

#### 4.5 Question 7: What methods should be used to demonstrate the accuracy of the existing meters in field?

The GVIA supports a metering framework that enables due processes to validate the current large number of high-standard, non-pattern meters being adopted as best practice as

outlined in our submission to the Water Reform Action Plan. The draft regulations provide detail the enabling legislation to allow for this but do not outline the due process that duly qualified persons will need to follow to provide assurance to the water user, the regulator and the community that a site meets in-field performance criteria for accuracy. This process should be clearly communicated rather than open for interpretation and current industry specialists can provide the suggested protocols for this.

As such, we recommend endorsement of the following processes:

- Factory certification of meter accuracy provided a standard proforma of what the regulator requires from the manufacturer is developed and installations validated; or
- Verification of the in-situ meter via a secondary meter under a variety of flow conditions; or
- Engineering assessment and performance analysis; or
- Installation and verification to ISO12242:2012 requirements.

**We recommend that in-field verification protocols to provide standard procedures to assessing in-field accuracy of non-pattern approved meters are developed in consultation with industry specialists.**

#### *4.6 Question 9: What information and support will water users need to help select metering products and services that meet the required standards?*

As outlined earlier the GVIA believes that the NSW Government should provide concise flowchart of metering requirements for individuals to assess their obligations against. This will help water users to identify what is required of them and by when.

The NSW Government should also regularly promote which meters are pattern approved, for what water use (surface water or groundwater) and to what size specifications, either diameter and flow rates. Whilst the National Measurement Institute provide a comprehensive list, it is difficult to digest and understand.

We also recommend providing clear direction on the information that would support a validation certificate, so that industry specialists can tailor their current reporting requirements as well as individuals seeking assurance from their meter manufacturers. The development of proformas is encouraged.

**We recommend that the NSW Government provide:**

- a) A current list of pattern approved meters, their application (surface water or groundwater) and specifications (diameter and flow-rate) on their website.**
- b) A proforma of what is required from manufacturer regarding the factory performance of meters (for example, is this for an individual meter or for a meter in a batch).**
- c) Protocols for providing in-field verification of meter accuracy with an intention to providing supporting documentation to a validation certificate.**

#### *4.7 Question 10: Do you have comments on the proposed mandatory conditions?*

Notwithstanding our recommendations above which all relate to the new mandatory conditions for water users, the GVIA considers it appropriate that government enhances the

current water accounting system or develops a new one which, allows for the incorporation of documentation and case notes into the one central location to ease reporting requirements on individuals and duly qualified persons. We note there are several new requirements to report to the regulator in a timely manner and to provide evidence of a variety of certificates, whereby a central depository of data for each water user with access by regulators, water licence holders and duly qualified persons may streamline data management and provide appropriate evidence trails.

We question to need to provide an indication of the purpose for which water is taken, as well as a statement of compliance against conditions is required for all water sources as outlined in Section 241(2) and 241(3) of the draft regulations. The requirement to indicate the purpose for water take is irrelevant in any case with conditions already in place for reporting on water usage for crops in other regulatory requirements like WaterNSW's operational license.

The requirement to demonstrate your pumping conditions have been met also seems largely irrelevant in either regulated systems, where water orders are required to be lodged or in groundwater systems, where water availability or account limits dictate pumping conditions.

If the intent is to provide a level of assurance that pumping conditions in unregulated systems have been met, then this requirement should be drafted accordingly, and the prioritised unregulated water sources named rather than requirement this condition on water users at an impost to them for no benefit. Or alternative systems be explored for unregulated systems that mimic those in regulated areas, provide evidence that flow conditions have been assessed and do not add to regulatory burden to individuals.

**We recommend that mandatory conditions relating to recording of the purpose of water being taken and that flow conditions are re-drafted to address their purpose and exclude regulated and groundwater water users for which the requirements are not intended.**

#### *4.8 Question II: What issues and data should be considered as part of the five-year review?*

The GVIA supports a five-year review into the implementation of the regulations provided that appropriate information is collected and evaluated to provide a genuine assessment into the effectiveness of the regulation to address the key principles of the metering regulations (as outlined in the Consultation Paper on 'Water Take Measurement and Metering', these being:

1. That the take of water can be accurately and reliably determined;
2. That meters used to measure water take are auditable, verifiable and accurate;
3. That data from meters can be easily communicated to relevant authorities;
4. That mandatory requirements and resources are targeted to high risk water users (i.e. those that have a greater capacity to take water in high risk water sources);
5. That the benefits of water measurement outweigh the costs; and
6. That the framework is simple to understand, comply with, administer and enforce.

As outlined earlier, we recommend that an evaluation of whether below threshold extraction in water sharing plans that already require a meter or in at-risk water sources, should be required to meet the metering regulations for new meters should occur. Information such as

the effectiveness of the roll-out and assessment of volumes already measured can help to assess the cost-effectiveness of further implementation.

We also consider it appropriate to better target the requirement for telemetry to ensure that at risk water sources and users and data capture can add value to water management. As a result, we recommend amending the requirements for telemetry to be for greater than 500mm diameter extractions in the first instance with an opportunity to review this as part of the five-year review.

We also recommend the opportunity to install ISO accredited meters in lieu available pattern approved meters, is reviewed as part of the five-year review and an assessment of the number of AS4747 meters available in each installation category.

**We recommend that the five-year review also includes the following considerations:**

- a) Whether further investment in metering below the minimum thresholds in areas where the water sharing plan requires a meter or it is an at risk water source.**
- b) Whether telemetry has provided additional benefits to water users and should be rolled out to lower priority water users.**
- c) Whether the opportunity to install ISO accredited meters is still required after five-years of implementation.**

## 5 Draft Regulations

As outlined in the above sections we recommend that the draft regulations are amended to take into consideration our recommendations and the challenges to meeting the provided timeframes.

## 6 Conclusion

The Gwydir Valley Irrigators Association (GVIA) as the representative body for irrigation entitlement holders in the Gwydir Valley, believes that all water take must be measured with the majority of take metered through highly accurate devices<sup>14</sup>. All measurement must be auditable, verifiable and within accuracy requirements, but that accuracy and measurement methodology may vary according to the perceived and actual risks from water extraction.

We have as a result provided 11 specific recommendations as part of our submission to the NSW Government's draft Water Management (General) Amendment (Metering) Regulation 2018 the "draft regulations".

We will continue to support accurate, reliable and verifiable water metering in our region and believes that government policy and regulation should encourage this in a practical, cost-effective and fit for purpose way.

We support amending the draft regulations to enable these metering objectives to occur as efficiently as possible.

We look forward to continuing to work with the NSW Government and the Water Reform Task Force to achieve these outcomes for industry and NSW.

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<sup>14</sup> Independently verified of within +/-5% in the field.