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Submission

13 December 2019

Ms Leanne Barbeler
Executive Director, Water Markets
Department of Natural Resources, Mines and Energy
PO Box 15216
CITY EAST Q 4002

Via email: RWMP@dnrme.qld.gov.au

Dear Ms Barbeler

Re: The Rural Water Management Program - Proposals for Strengthening Non-Urban Water Measurement, Consultation Paper

The Queensland Farmers' Federation (QFF) is the united voice of intensive, semi-intensive and irrigated agriculture in Queensland. It is a federation that represents the interests of peak state and national agriculture industry organisations which, in turn, collectively represent more than 13,000 farmers across the state. QFF engages in a broad range of economic, social, environmental and regional issues of strategic importance to the productivity, sustainability and growth of the agricultural sector. QFF's mission is to secure a strong and sustainable future for Queensland farmers by representing the common interests of our member organisations:

- CANEGROWERS
- Cotton Australia
- Growcom
- Nursery & Garden Industry Queensland (NGIQ)
- Queensland Chicken Growers Association (QCGA)
- Queensland Dairyfarmers' Organisation (QDO)
- Australian Cane Farmers Association (ACFA)
- Pork Queensland Inc.
- Queensland United Egg Producers (QUEP)
- Queensland Chicken Meat Council (QCMC)
- Bundaberg Regional Irrigators Group (BRIG)
- Burdekin River Irrigation Area Irrigators Ltd (BRIA)
- Central Downs Irrigators Ltd (CDIL)
- Fairbairn Irrigation Network Ltd
- Mallawa Irrigation Ltd
- Pioneer Valley Water Cooperative Ltd (PV Water)
- Theodore Water Pty Ltd.

QFF welcomes the opportunity to provide comment *on the Rural Water Management Program – Proposals for Strengthening Non-Urban Water Measurement Consultation Paper*. We provide this submission without prejudice to any additional submission from our members or individual farmers.

In Summary, QFF:

- ***Supports an affordable, efficient and cost-effective water metering, management and compliance framework***
- ***Believes that good metering and measurement is essential to ensure equity and compliance; and to foster an effective water market***
- ***Supports the appropriate use of telemetry, but recognises that in most situations its application may not be technically feasible and/or economically warranted***
- ***Recognises installation and on-going costs of meters is a major concern, and this policy should be very mindful of the economic pressures imposed by the drought, as well as the economic value of telemetry in most circumstances***
- ***Believes the current metering policy debate should be restricted to the take of water from bores, and from un-supplemented water sources. This policy discussion should not extend to the measurement of overland flow, the take of supplemented water or the take of water from within recognised irrigation schemes should the emphasis remain on metering of all extraction where the resource is shared and limited.***
- ***AS4747 metering compliance in non-contentious areas is hard to justify. Acknowledging wherever there are competing interests for the resource, the equation and consideration changes.***
- ***Is concerned that the application of AS4747 to 400mm+ diameter bore meters is cost prohibitive and will, in many cases, result with additional works requirements pushing the cost of implementation per off-take well in excess of the $100,000 quoted by the Department (for little improved accuracy or validity).***
- ***Believes water meters, used for measuring the take covered by this policy, should be owned and maintained by the water entitlement holder***
- ***Believes both the Federal and State Government should be obliged to provide significant financial assistance to water entitlement holders to meet the metering requirements with no subsequent cost recovery exercise.***
- ***Supports the full subsidisation of the telemetry as it is principally a cost of compliance and therefore public benefit.***
- ***Believes that all data collection by Government should be subject to robust and agreed data protection principles including those of lawfulness, purpose limitation, data minimisation, accuracy, storage limitation and confidentiality.***
- ***Offers conditional support for the policy, predicated on the Queensland Government being able to demonstrate that it has the capacity, technicians and systems to efficiently install and maintain the equipment on an as-failed basis and to utilise supplied metering data, in a manner that will ensure a robust, transparent and compliant regulatory system.***
- ***Supports the 'grandfathering' of existing water meters to ensure that farmers are not disposing of working assets before the end of their useful life and incurring unnecessary costs one day early.***
- ***Supports the phased implementation that accounts for current drought declarations (or other emergency circumstances that may arise).***
- ***Believes that the Government's own metering of natural water resources must meet the same benchmarks as those imposed onto industry.***
- ***Continues to support the continued need for local Departmental knowledge and local personnel – the basis for telemetry must not be at the cost of removing local compliance and policy officers.***

QFF represents the intensive agriculture sector, which makes a major contribution to Queensland's state and regional economies and employment. This sector, including sugarcane, cotton, nursery and garden,

intensive animal industries and horticulture, with a value of $7.7 billion in 2017-2018[1] to the Queensland economy, uses water to generate world leading, high quality produce servicing local and world markets. Maintaining and growing the quality and reach of this sector is dependent on these industries remaining competitive.

Water is an all critical input for the agricultural sector. QFF recognises that water metering is a necessity for the fair and equitable use of a high valued resource, and that the efficient management of water use should reduce costs to water users and suppliers, and result in sustainable management of the water resource. However, it is also essential that the agricultural sector be able to reasonably comply with any regulatory requirements associated with the management and measurement of water. In particular, the cost of compliance should not result in agricultural businesses becoming non-viable. This is the overriding concern that has been raised by our stakeholder organisations throughout the consultation period and will remain the most contentious issue going forward.

Several of QFF's stakeholder organisations have directly supported the need for metering and continue to do so. This does not however translate to direct support for the additional costs foreshadowed by the measures proposed by the consultation paper. A return on investment has not been adequately demonstrated at this time, and it remains the concern of stakeholders that they will be required to meet the cost of compliance through loss of commercial viability.

QFF notes the process of public policy development which the government determines the most appropriate approach to dealing with problems or issues that require its attention. When considering a policy proposal, it is essential government decision makers are provided with the necessary information and advice to make informed decisions. This is particularly important for policy proposals such as this, that introduce or amend government regulation and, in this case, which have significant impacts on business, the community and the Queensland economy[2]. The consideration of regulatory best practice principles is essential, and should the amendment of regulation be necessary, it must minimise the burden (financial and administrative) on affected stakeholders. As such, QFF expects to see a rigorous Regulatory Impact Analysis as the next step, which considers a range of feasible policy options including self-regulatory, co-regulatory and non-regulatory approaches; and an assessment of their benefits and costs on an individual scheme and locational basis.

Attachment 1 outlines QFF's response to the consultation questions raised in *The Rural Water Management Program – Proposals for Strengthening Non-Urban Water Measurement Consultation Paper.*

Yours sincerely

Dr Georgina Davis
Chief Executive Officer

[1] Extrapolated from data accessed from the Queensland Government Statistician's Office, Agriculture**: Gross value of production by commodity, Queensland, 1984–85 to 2017–18 (table)**
https://www.qgso.qld.gov.au/statistics/theme/industry-development/agriculture/value

[2] Queensland Treasury. The Queensland Government Guide to Betters Regulation. May 2019.

Attachment 1

Question 1: Considering the proposal for who will need a meter, please provide your feedback on which types of water take or water entitlements should be subject to metering.

The main concern for QFF stakeholders appears in the Bundaberg region, and focus on two issues:

- Existing metering of bores in the coastal Burnett GMA
- A significant range of different arrangements including the metering of overland flow, where some dams have no volumetric limits whilst others do; and some entitlements have been converted from a hectare licence to a nominal volumetric entitlement (which may or may not again be metered).

Historically, bores in the Coastal Burnett GMA have been well monitored (via the State Government). Stakeholders in the region are struggling to understand how an additional layer of monitoring, at the expense of the individual water user will bring greater efficiency benefits. During consultation, the Department of Natural Resources Mines and Energy (DNRME) suggested that additional metering would lead to an improved process and capacity for instantaneous trading. However, it is not clear to stakeholders that the trade off in further investment is cost recoverable.

Metering of overland flow, while not included in the consultation paper, is flagged by DNRME for further evaluation for metering requirements. There is considerable concern around how this may be measured, as a number of dams are likely to store captured overland flow, Sunwater allocations and/or spring water. The configuration of metering to avoid double counting of water moving in and out of the system has the potential to become cost prohibitive. QFF encourage DNRME to consult extensively with stakeholders affected by overland flow before moving into further consideration of metering arrangements. It is also unclear from the consultation paper how DNRME may choose to address dams with no volumetric limit (as defined by *Water Regulation 2016*, s 50)

Question 2: Should there be thresholds or limits on the requirement for a meter? If so, what would they be and why?
Question 3: What factors need to be considered in requiring Pattern approved meters where these are available on the market?

QFF stakeholders have indicated that they believe the Queensland Government should not move beyond the requirements of Australian Standard AS4747. Anecdotal inquiry across the industry suggests that water users are currently paying three times the cost of mechanical meters to replace with electronic meters. Further, the experience of irrigators in the Pioneer Valley Scheme suggests electronic meters last only a third of the life of mechanical meters – effectively equating a net increase in cost of electronic meters at nine times the existing costs.

The overall resilience of electronic meters should also be a key consideration. Experience to date by a number of stakeholders has demonstrated electronic meters installed in flood affected areas increase maintenance costs. Proposed mandatory requirements for telemetry are likely to increase these costs. More consultation needs to occur around the cost of metering at the resource planning stage, including the capacity of manufacturers, timely resourcing of meters and paralleled capacity building of qualified personnel to install and service meters, all factors likely to be strained by the requirement for telemetry. There are significant learnings that have occurred across the sector about the practical implementation of electronic metering to date, and this knowledge needs to be collected on a region by region basis to minimise front end and operational costs.

QFF has also received feedback from the Herbert River district where several growers have bores, many of these are rarely used and, when they are, minimal amounts of water are drawn. The sentiment is that the installation of meters seems redundant from both a farm management and wider state environmental management perspective the Return on Investment in the meters would be negligible.

This reflects the vastly different water management issues in the state's wet tropics compared with those in the drier environs west of the Great Divide.

Consultation Question 4: In consideration of data recording, storage and transmission, are there circumstances where you consider telemetry is not beneficial?
Consultation Question 5: Should there be thresholds or limits on the requirement for telemetry? If so, what would they be and why?
Consultation Question 6: Are there any circumstances where you believe data loggers are not beneficial? Is so, please describe these and why.

While compliance is only one vehicle of governance and is critical to protect the innocent, it can create an environment of anger and mistrust. Consequently, how the government approaches compliance is critical to the success of the entire system.

There is a general acceptance that in arid country such as Australia that everyone needs to be responsible for the management of our water asset. Reinforcing this within the Agricultural sector, is the strong desire for complete transparency in its use, reducing if not removing misrepresentation.

Farming within Australia supports many rural communities. However, with the growing concern surrounding the use of our natural assets the social licence to farm is being damaged. To reverse this, transparency needs to be established, and to achieve this a trustworthy real-time compliance system is critical.

The foundational role of compliance is to prevent, detect, respond to and remediate risk. The ideal goal for any compliance model is "self-compliance" as this indicates that the system is:

- Economically viable for the consumer to become compliant
- Easy to understand
- Proactive and Interactive in its advice
- Assured and trusted
- and embraced rather than feared
- A compliance system should not be feared by those striving to comply. Importantly, if implemented correctly it can become a tool for better business management and a mechanism for positive self-compliance
- Currently, in rural water use, there are numerous ways that an entitlement holder may become non-complaint and breach the entitlement conditions
- Availability breaches - Water take may occur when it's not available under the entitlement conditions
- Extraction may exceed the Annual Volumetric Limit (AVL), Daily Volumetric Limit (DVL), Maximum Rate of Take (Max ROT)
- Meters may be in disrepair or tampered with, resulting in incorrect or missing Water Take Data (unreported, or underreported consumption)
- Extraction without a licence.

With current reporting of water consumption restricted to two annual self-reported values, it is not possible to assess compliance (other than AVL). Further, it is very difficult for the consumer to fully understand their compliance position in a timely manner to alter their behaviour or practice. Importantly, due to the tyranny of distance, a physical "boots on the ground" approach to compliance is not sustainable or even feasible.

Conversely, in a future state where water entitlements and allocations can rapidly change, trades occur on-line, and consumption data is captured in near real-time via telemetry systems it will be possible to detect any and all compliance breaches as they occur. More importantly, as all water take data is captured in near real-time the solution should be able to alert a consumer if they are in danger of becoming non-compliant, enhancing the consumers trust in the system.

Farmers depend on the water systems that nourish their land, and as such are extremely concerned with the health of the system and or the most part, understand the need for compliance. However, in all complex environments there are those that do mistreat the system, requiring the authorities to act.

To enable fair, clear and decisive action, the authorities must be absolute in their trust of the evidence. In simple terms, if there is any doubt in the validity of the data, or if the legal system can discount the data received, then the system of self-compliance is diminished and mistrust will then work to undermine the system.

Other States are mandating that the on-site telemetry device can store five (5) years of data, this strategy does not prevent the loss of data due to accidental or purposeful damage/destruction of the device. Therefore, the move to cloud-based data systems is the most viable path. However, it is imperative that the data path can be assured from end-to-end and that the provenance of data is maintained.

Data assurance or provenance relies on clear chains of data custody and the securing of those chains. This becomes almost impossible when there are a multitude of telemetry devices, networks, data systems and organisations responsible for the collection and management of that critical data, this is one of the reasons new technologies, such as "Blockchain" and distributed ledger technologies (DLTs), are starting to emerge. However, these constructs are not mature and have not been universally adopted in the technology industry.

Given the importance of compliance in delivering the transparency needed in the management of our rural water asset, QFF believes that more work needs to be done to ascertain the correct solution. Consideration must include the increasing range of narrow band suppliers, capability for further services of these providers and if there is merit to select a single organisation to be responsible for telemetry, networks and the collection, management and delivery of the data. In essence, assuring the data and accepting the associated risks.

Consultation Question 7: What information would you require from the department to be certain about what your data logger is required to do and which device to install?

Across QFF stakeholder organisations, the requirement for telemetry has been the largest cause for concern, and likely reflected in DNRME's consultation forums with individual stakeholders.

Across Queensland, stakeholders have expressed concern regarding the cost benefits of telemetry. These include:

- **Recent purchases of AS4747 compliant metering without telemetry capacity**. Advice to date from Telstra is that these meters cannot be retrofitted. While the consultation paper highlights that transitional arrangements would be developed for existing meters, including nominal end of life, water users who have recently invested are deeply concerned about the potential cost implications – particularly if their recent investment is about to create an ongoing operational cost that continues to increase the cost of the existing meter, purely because the meter is installed ahead of DNRME's new policy.
- **The reliability of telemetry across all water users**. Several QFF stakeholder organisations reported concerns from stakeholders regarding telecommunications across their farms, with a significant number reporting that their water meters are typically in 'blackspots' on their property as a result of geographic features and/or substandard telecommunication coverage. Hence the additional cost of ensuring telemetry capability on new metering, that may well be unusable, is a key point of resistance for stakeholders who are well aware of the lack of coverage on their properties.
- **Environmental Resilience of meters**. As raised in Question 1, insects and flooding are an ongoing management and maintenance issue for many stakeholders. Ants are typically reported to invade metering equipment. It is not clear if this issue has occurred with tamper-proof units (i.e. sealed),

however, pressure resistance of tamper-proof units would need to be a key consideration going forward.

- **Return on investment.** Without question, the return on investment remains the largest concern for stakeholders. A number of stakeholders have quoted indicative costs of $11,000 for the meter alone. (As an example, a 600mm Electromagnetic meter cost starts at over $10,000 before installation). For installation of meters with data logger and telemetry capability these costs increase. In catchments such as Bundaberg, where compliance is contextually high, and trading of water relatively low, it is difficult for the average stakeholder to understand how more frequent data readings will assist them in their compliance. From the stakeholder's viewpoint, this is increasingly seen as a service/benefit to government, paid for by the user.

Consultation question 8: What privacy and commercial-in-confidence considerations do you think are important in relation to the department's and the water entitlement holder's storage, access to and use of water use data?

Privacy and, more particularly, the Queensland Government's intended use of data collected is a deeply contentious issue of concern for all stakeholder organisations, second only to cost.

There is a pervading concern, across all QFF stakeholder organisations, that water data collected across catchments will be used to publicly villainise agriculture –individual farmers, catchments, industry and the sector. Water allocations can be complex – and during drought, it is not unexpected that water users will attract attention. Similarly, agricultural activities adjacent to the Great Barrier Reef are of interest to a range of government and non-government organisations.

QFF supports the intent of metering to enable accuracy, verification and transparency in water transactions. DNRME has stated that the data collected from water meters will be used to inform planning, while enabling users to enhance water efficiency (e.g. identifying leaking pipes, broken fixtures, etc) – but that

"…there has been no decision about what information would be made available beyond the department and individual water entitlement holders. Information privacy requirements are a key consideration."

There must be further and ongoing consultation across stakeholders as the department forms a view on how this information might be shared. For example, the National Greenhouse and Energy Reporting Scheme (NGERs), only publicly reports emitters above a stated threshold. On a public transparency level this is broadly deemed effective. However, in 2011 it did also capture businesses affected as a result of significant natural disasters (cyclones, floods) who lost their renewable fuels in the flood, and in addition to having to refurbish factories, were required to burn coal. Without context, these industries were listed in the top emitters, and became the unnecessary focus of various non-government organisations.

QFF stakeholder organisations recognise their members actively seek to comply with regulatory requirements. There are however mitigating circumstances that can lead to a no-fault non-compliance, often brought about by events such as a natural disaster. Without context, the data for an individual, industry or region can be used to malign the reputation of the agriculture sector. Most organisations have stated they would expect a Queensland Government guarantee that the data will not be used outside of the stated purposes agreed between the Department and the water user. As the department has not developed decisions around the use of this data, QFF anticipates this would be a critical consultation step going forward.

Consultation question 9: How well do the proposed transitional arrangements balance improved meter accuracy and minimising costs for existing meter owners?

QFF stakeholder organisations found the proposed transitional arrangements to be somewhat incomplete, as stakeholders are unclear about whether data loggers can be fitted to their existing meters if not already installed – and the associated cost of retrofitting.

A potential option for DNRME may be to provide a service in the first instance (e.g. website) identifying meters that are likely to fall into data logger compatible and those that are not. It needs to also be recognised that water meters that have been replaced due to a lack of resilience to environmental conditions – may ultimately reflect these conditions in their replacement.

However, a cost and limitation of this approach will be the availability of appropriately trained personnel. QFF Stakeholder organisations universally recognised the opportunity for local and regional employment opportunities, but are cognisant that training will need to be coordinated and timed to parallel the DNRME implementation of a new policy.

Consultation question 10: What do you see being the effects of the proposed changes to validation and maintenance requirements?

Most QFF stakeholder organisations recognise that moving to pattern approved-meters with less frequent validation required is likely to result in lower operating costs compared with existing meters that may be transitioning. All recognise that the proposed validation requirements will create a secondary industry that will provide local support, and ideally should drive down the costs of validation (i.e. reducing the travel costs passed on to the individual water user).

However, there is significant concern for all stakeholders around the potential cost imposition. For those that will be required to move to installation of new meters in the immediate future, the upfront capital cost is potentially prohibitive for many farmers, particularly those with multiple meters on farm, that may be aggregated or dispersed on the site. Headworks are not insignificant. Hence at a site with multiple meters, but not all needing replacing, a water user will need to balance the financials of replacing all meters despite a number of years remaining until end of life, to avoid repeating the headwork cost in the future - or will they alternatively bear headworks cost for each meter as they reach end of life, with the view that market penetration will drive down meter costs in the future. Either exercise is cost intensive. This is a concern for water users with large diameter pipes – with costs of an elevated orders of magnitude.

The question of equity is particularly apparent in the Burdekin, where dam irrigators are metered, and ground water users are not. Meters in this region were installed by the department, and subsequently transferred to Sunwater. This region has a particularly strong view that any further changes to metering driven by proposed changes to validation and maintenance, should be borne by government, and not by the water users.

Consultation question 11 – Are there any other matters which need to be considered in determining an effective implementation plan?

There are universally supportive views across the QFF stakeholders regarding the metering of natural water resources except for the Wet Tropics region, where there is a perception of ‘ample water’. There seems to be universal appreciation of the benefits of metering, where installed, around equity, transparency and water security.

However, while it has been raised throughout this submission, the costs associated for every water user needs to be continually highlighted. There is, without question, deep concern by stakeholders across the agriculture sector, about capacity to pay to meet compliance. It is difficult to convince water users that have well managed water schemes, without individual water meters, why the additional cost is necessary. It is also difficult to convince stakeholders who have already invested significantly in water

metering to meet the current compliance requirements that a new compliance regime will result in a return on investment. Many remain unconvinced about the potential benefits as articulated by DNRME.

QFF Stakeholder organisations are universally agreed that more detail is required in the next steps of policy development, and that this will require significant consultation.

QFF also notes the ACCC current inquiry into markets for tradeable water rights in the Murray-Darling Basin. The ACCC will recommend options to enhance markets for tradeable water rights, including options to enhance their operations, transparency, regulation, competitiveness and efficiency. This inquiry includes review if current approaches and frameworks for metering and monitoring of water use are effective and appropriate; and if current approaches and frameworks for metering and monitoring of water use are impacting water market outcomes.