



Irrigation price
investigation
2025-29

Submission
to the draft
report

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1. Summary

Seqwater welcomes the opportunity to provide this submission to the Queensland Competition Authority's (QCA) draft report titled 'Rural irrigation price review 2025–29: Seqwater'.

Seqwater acknowledges the recommendations made in this report and agrees with the majority of the findings by the QCA, including the removal of the off-stream pumping event and updates to key parameters (including the WACC, inflation). We are pleased to provide additional commentary on the irrigation meter renewal program.

2. Irrigation meter renewal program

This section provides additional information on Seqwater's Irrigation Meter Renewal program. In particular, it steps through the choice of meter, the forecast cost for each Scheme based on the numbers of meters to be installed and estimated cost of the meter, pipework and installation.

2.1. Meter choice

2.1.1. Seqwater proposal

Seqwater had proposed in its 2025-29 Irrigation Pricing Submission to forecast all meter costs based on the use of the Krohne electromagnetic flow meter. This meter was assessed to both meet the current NMI M10 standards and be fit-for-purpose for the water quality experienced in our irrigation schemes.

2.1.2. QCA draft report

The QCA raised concerns about the efficiency of the meter choice and whether there would be more efficient meters available that met the NMI M10. This meant, at times, the average historical meter replacement cost was applied rather than the forecast meter replacement cost as proposed.

2.1.3. Our response

Historically, Seqwater has used paddle wheel meters to measure water flows for irrigation customers. In 2019, Seqwater commenced its meter replacement program to be compliant with NMI M10. This is a compliance requirement by June 2025 under the Murray-Darling Basin metering requirements of MAF2. Whilst Seqwater operates outside the Murray-Darling Basin, the Queensland Government has updated its metering policies to apply this requirement across all of Queensland. The current paddle wheel meters are not compliant on both accuracy and the ability to add on telemetry and data logging capabilities. The ability for a meter to have telemetry and data logging capabilities is expected to be a requirement under updated Murray-Darling Basin installations and would be reflected in updated Queensland regulations, as advised by the Department of Regional Development, Manufacturing and Water.

During the initial phase of the project, there were very few meters that met the NMI M10 guideline. In accordance with procurement guidelines, Seqwater went to open tender for the provision of meters, with two rounds of quotes as part of its due diligence. As part of the tender review process, Seqwater sought feedback on two types of E Mag meters – Seimens and Krohne. Seqwater had itself unsuccessfully used the Seimens meter (with 5 of the 18 meters installed failing within the first 12 months) and sought confirmation from Southern Downs Regional Council on their experience in its irrigation meter replacement program that started nine to ten years prior. Southern Downs Regional Council noted that many of the Seimens meters had failed early and it had since changed to Krohne meters, which had not reported any issues.

Seqwater has chosen the Krohne electromagnetic (E Mag) flow meter as the preferred meter for its irrigation customers to replace the existing paddle wheel meters. To ensure compliance with NMI M10, the Krohne meter has to be installed in a pattern approved manner. Seqwater investigated three different pipework options to surround the meter:

- Polyethylene (PE) pipe
- Galvanised Steel

- Stainless Steel

Given the current water quality, Galvanised Steel was deemed to be not suitable due to its susceptibility of internal clogging and corrosion. This both reduces the accuracy and life of the metering system and increases the maintenance cost over the life of the meter.

Seqwater investigated the cost difference between PE pipe and Stainless Steel in November 2020. Over time the PE pipe will sag, and it does not maintain compliance with the pattern approval for straight pipe lengths. To maintain compliance with the standards, the PE pipe required additional compression fittings, suitable valves and additional support to stop the PE sagging over time. The additional cost of this means that the normally cheap PE pipe resulted in a more expensive installation than Stainless Steel, that did not require additional fittings. At the time of investigation, this was nearly \$1300 more expensive, with PE (i.e. HDPE) total installation costing \$5,672 and 316L Stainless Steel costing on \$4,379.

Overall, Seqwater has chosen the Krohne E Mag flow meter with stainless steel pipework as it:

- has the lowest lifetime cost options on both the meter and the pipework
- is reliably consistent with NMI M10 standards
- has the ability to provide telemetry and data logging
- future-proofs the investment by ensuring continued compliance for the life of the asset and reduces the likelihood of a new investment required to meet increasing standards, such as telemetry.

In accordance with its best practice procurement and investment principles, Seqwater is currently reviewing its engineering specifications for meters. This is due to several meters being added to the NMI M10 pattern approved list since the last review in July 2021. We are currently investigating the recent inclusions, including paddle flow meters and other E Mag flow meters. However, due to the short life of paddle meters it is unlikely that it will perform better than E Mag flow meters over a 30-year period.

Further information is found in the Irrigation Meter Selection Memo.

2.1.4. Our proposed final position

Seqwater's proposed final position is to maintain the use of the Krohne E Mag flow meter as it is the only meter assessed and tested that:

- meets the existing NMI M10 standards
- future proofs our meters for potential future standards, legislations and codes provided to Seqwater by the Queensland Government
- provides the lowest cost investment with installed with Stainless Steel pipework to meet the pattern approved requirements.

The Krohne E Mag flow meter has been used to calculate the costs by Schemes in the sections below.

2.2. Meter renewal program by Scheme

This section steps through the cost build-up of the meter renewal program by Scheme.

The estimated cost per meter varies by Scheme due to the different installations and the requirements to meet pattern approved installation. This has impacted the installation costs across each Scheme.

Seqwater disagrees with the findings that historical installation and meter cost should be used for estimating future costs. This is because:

- Mechanical or paddle wheel meters were cheaper to purchase than electromagnetic meters, noting that electromagnetic meters have a longer asset life.
- Installation standards have changed requiring a different meter set up.
- Increases in materials and labour costs of the installation process for the meter.

The cost per meter and the number of meters by each Scheme is described below.

The QCA identified the following Schemes where it made adjustments to the metering program:

- Logan River
- Lower Lockyer
- Morton Vale Pipeline
- Mary Valley.

In developing our response, it was discovered Seqwater had included metering costs for the Cedar Pocket and Pie Creek Schemes in the Mary Valley Scheme original business case. Our response includes the re-allocation of these costs to the correct identified schemes.

2.2.1. Logan River

2.2.1.1. Seqwater proposal

Seqwater's proposal identified 60 meters to be replaced for a total cost of \$1.18 million from 2023-24 to 2028-29 (\$nominal). This was in addition to the 51 meters replaced between 2018-19 and 2022-23.

2.2.1.2. QCA draft report

AtkinsRéalis reviewed the meter renewals expenditure on behalf of QCA. AtkinsRéalis recommended that a total of \$0.54 million (\$real2023-24) be removed from the forecast from 2023-24 to 2028-29. This reduction was based on the cost per meter (including installation) being significantly higher than the historic program. The QCA accepted the number of meters to be installed, however noted the lack of information to support the step change increase in the unit costs proposed and used the historical average costs (as put forward by AtkinsRéalis). This resulted in a reduction across the entire forecast annuity of \$0.54 million (\$nominal).

2.2.1.3. Our response

The Logan River Scheme consists of a total of 156 meters to be upgraded. The average age of these meters is 8.5 years, installed between 2014 and 2023. Seqwater is currently in the process of upgrading the initial 60 meters, 30 of which have already been completed during the current year. To meet compliance with the NMI M10 meter standards, the Krohne E Mag flow meter has been assessed to be the best fit-for-purpose meter to meet existing and likely future regulations and standards set by the Queensland Government. The justification of the choice of meter is provided in section 2.1.

The meter and installation cost for this meter is based on:

- The unit cost of Krohne E Mag flow meter by meter size with various sizes being upgraded. Flow meter costs (number of meters in brackets):
 - 50mm (2) - \$3,000 per meter
 - 80mm (4) - \$3,000 per meter
 - 100mm (21) - \$3,200 per meter
 - 150mm (27) - \$3,350 per meter
 - 200mm (4) - \$3,600 per meter
 - 250mm (1) - \$4,100 per meter
- The actual costs of installation for the existing meter upgrades (30 have been completed and another 30 to be upgraded in the next year) were used to inform the cost estimate for installation. To ensure compliance with the current standards, an assessment of each works has to be completed to check if pipework needs replacement, or if there are bends. Whilst the average cost to install has been \$21,441, the cost per site can vary. Each meter set up is different and can often lead to different materials being used, different types of installations, and whether excavation work is required (this has added approximately \$3,000 to the install costs alone).

2.2.1.4. Our proposed final position

Our proposed final position on Logan River Metering Renewal program is shown in Table 1.

Table 1 Logan River Metering Renewal Program (\$nominal)

Scheme	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Beyond FY30
Submission	84,754	302,241	245,418			196,892	853,689	84,804	44,882			
QCA draft report	84,754	302,241	245,418			106,313	460,955	45,790	24,234			
Final position	84,754	302,241	245,418			196,892	853,689	84,804	44,882			

2.2.2. Lower Lockyer

2.2.2.1. Seqwater proposal

Seqwater proposed to include \$0.33 million (\$nominal) to be spent across 2027-28 and 2028-29, and an additional \$1.7 million (\$nominal) to be spent from 2029-30.

2.2.2.2. QCA draft report

AtkinsRéalis reviewed the proposed meter renewals for Lower Lockyer. It found there was a lack of supporting information on the number of meters to be replaced and the unit cost. QCA accepted the recommendation from AtkinsRéalis to use an assumed replacement rate of 25 per cent and average installation cost per meter. This was a reduction across the entire forecast annuity of \$1.4 million (\$real2023-24) or \$1.7 million (\$nominal).

2.2.2.3. Our response

The Lower Lockyer Scheme consists of a total of 124 surface water meters. The average age of these meters is 9.55 years and were installed between 2010 and 2019. To meet compliance with the NMI M10 meter standards, 116 meters need to be upgraded.

The Krohne E Mag flow meter has been assessed to the best fit for purpose meter to meet existing and likely future regulations and standards set by the Queensland Government. The justification of the choice of meter is provided in section 2.1.

The meters are split into two categories – 104 meters required a minor modification and 12 meters require a major modification of the meter configuration which alters the cost. The average meter and installation cost for this program is \$18,890 per meter and is based on the following assumptions:

- Project documentation, investigations and drawings - \$4,550 per meter
- Flow meter costs (number of meters in brackets):
 - 50mm (1) - \$3,000 per meter
 - 80mm (4) - \$3,000 per meter
 - 100mm (47) - \$3,200 per meter
 - 125mm (1) - \$3,250 per meter
 - 150mm (63) - \$3,350 per meter
- Installation and materials - \$7,928 for minor (meter sizes 50 mm, 80 mm and 100 mm), \$8,828 for minor (meter sizes 125 mm and 150 mm) and \$10,423 for major (meter sizes 80 mm and 100 mm) and \$11,584 for major (meter sizes 150 mm)
- Communications, commissioning and handover - \$200 per meter
- Planning, business case development and Seqwater PM costs - \$2,172 per meter
- Excludes 20 per cent contingency

Overall, the average cost for the installation of the meter has increased due to the initial meter cost, materials and labour cost increases. As such, the average cost of the meter renewals in this Scheme are more expensive than previously and historic costs cannot be used to infer the future costs of the meter renewal program.

2.2.2.4. Our proposed final position

The final proposed position is \$2.191 million (nominal) and is presented in Table 2.

Table 2 Lower Lockyer Metering Renewal Program (\$nominal)

Scheme	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Beyond FY30
Submission	59,248	14,741	712	1,891						85,706	247,253	1,743,626
QCA draft report	59,248	14,741	712	1,891						16,721	48,238	340,176
Final position	59,248	14,741	712	1,891						85,706	247,253	1,858,234

Further information is found in the Lower Lockyer Metering Renewal Program Business Case.

2.2.3. Mary Valley

2.2.3.1. Seqwater proposal

Seqwater proposed to invest \$1.15 million (\$nominal) to replace the existing meters in the Mary Valley Scheme. This was based on 60 meter replacements due to legislative requirements and existing meters reaching the end of life. These meter replacements are in addition to the investments made over the prior period (from 2018-19 to 2022-23).

2.2.3.2. QCA draft report

AtkinsRéalis reviewed the proposed meter renewals for the Mary Valley Scheme. Whilst it agreed with the number of meters that need replacement, it found that there was a lack of supporting information for the increase in the unit cost. QCA accepted the recommendation from AtkinsRéalis to the historical average cost for the unit cost. This resulted in a reduction across the entire forecast annuity of \$0.79 million (\$nominal).

2.2.3.3. Our response

Seqwater has identified that the 60 meters planned for upgrade in the original Mary Valley Scheme business case included three meters for Cedar Pocket and 13 meters for Pie Creek. As such, we have reduced the number of meters to be replaced and recovered from customers in the Mary Valley Scheme. Further information on the inclusion of these meters in the metering renewal cost for Cedar Pocket and Pie Creek are found in 2.2.5.

The Mary Valley Scheme consists of a total of 215 meters. The average age of the 44 meters being upgraded in the Mary Scheme is 6 years, and were installed between 2013 and 2019. To meet compliance with the NMI M10 meter standards, the Krohne E Mag flow meter has been assessed to the best fit-for-purpose meter to meet existing and likely future regulations and standards set by the Queensland Government. The justification of the choice of meter is provided in section 2.1.

The average meter and installation cost for this program is \$18,617 per meter and is based on the following assumptions:

- Project documentation, investigations and drawings - \$1,733 per meter
- Average cost of flow meter - \$3,500 per meter
- Installations costs including materials of \$10,483 per meter
- Communications, commissioning and handover - \$1,000 per meter
- Planning and BC development and Seqwater PM costs - \$1,900 per meter
- Excludes contingency of 20%

Overall, the average cost for the installation of the meter has increased due to the initial meter cost, materials and labour cost increases. Furthermore, when the Mary Valley Scheme meters were last installed no engineering drawings were completed and this has added to the cost. As such, the average

cost of the meter renewals in this Scheme are more expensive than previously and historic costs cannot be used to infer the future costs of the meter renewal program.

2.2.3.4. Our proposed final position

Our final proposed position is a total cost of \$0.82 million (nominal) for the Mary Valley metering renewal program as shown in Table 3.

Table 3 Mary Valley Metering Renewal Program (\$nominal)

Scheme	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Beyond FY30
Submission	242,379	198,729	1,682		278,551	103,962	498,542	544,764				
QCA draft report	242,379	198,729	1,682		278,551	31,988	153,398	167,620				
Final position	242,379	198,729	1,682		278,551			540,582				

2.2.4. Morton Vale Pipeline

2.2.4.1. Seqwater proposal

Seqwater had proposed to replace 54 meters in the Morton Vale Pipeline. These replacements are proposed to occur in 2026-27 at a cost of \$0.65 million (nominal).

2.2.4.2. QCA draft report

AtkinsRéalis reviewed the proposed meter renewals for customers on the Morton Vale Pipeline Scheme. It found that there was a lack of supporting information on the number of meters to be replaced and the unit cost. QCA accepted the recommendation from AtkinsRéalis to use an assumed replacement rate of 25 per cent and average installation cost per meter. This was a reduction across the entire forecast annuity of \$0.5 million (nominal).

2.2.4.3. Our response

The Morton Vale Pipeline Scheme consists of a total of 54 meters. The majority of meters were installed in 1996 (based on the scheme drawings), meaning these flowmeters have reached the end of life at almost 30 years old. All of these meters are non-pattern approved mechanical meters. To meet compliance with the NMI M10 meter standards, the Krohne E Mag flow meter has been assessed to be the best fit-for-purpose meter to meet existing and likely future regulations and standards set by the Queensland Government. The justification of the choice of meter is provided in section 2.1.

The meter and installation average cost is 7,863 (excluding contingency) for this Scheme is based on:

- All 54 meters on the pipeline need to be replaced to ensure compliance with the NMI M10 standards.
- The average cost per meter is \$3,263 based on the different sized meters:
 - 50mm (2) - \$3,000 per meter
 - 100mm (30) - \$3,200 per meter
 - 150mm (20) - \$3,350 per meter
 - 200mm (2) - \$3,600 per meter
- Telemetry has been added to the meter (\$2,000 per meter)
- Installation (\$500 per meter plus \$1,000 for materials across all 54 meters).
- Planning, project management, documentation and drawings etc (an average of \$1,882 per meter).
- Commissioning and communication requirements (\$200 per meter)
- Excluding 20% contingency.

Overall, the average cost for the installation of the meter has increased due to the initial meter cost, materials and labour cost increases, and the addition of telemetry. Seqwater has not budgeted for excavation work or other pipework as meters can be swapped, unlike other Schemes. As such, the average cost of the meter renewals in this Scheme are much cheaper than others and cannot be used to infer the average cost of meter renewals in other Schemes. Telemetry is the only significant additional cost and this is for consistency across the Central Lockyer region where all surface and groundwater meters have telemetry.

2.2.4.4. Our proposed final position

Our final proposed position is a total cost of \$0.425 million (nominal) for the Morton Vale Pipeline metering renewal program as shown in Table 4.

Table 4 Morton Vale Pipeline Metering Renewal Program (\$nominal)

Scheme	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Beyond FY30
Submission									651,605			
QCA draft report									151,770			
Final position									424,620			

2.2.5. Re-allocation of costs between Schemes

As noted in 2.2.3.3, the budget for Mary Valley had inadvertently included 13 meters in Pie Creek and three meters in Cedar Pocket. Seqwater is seeking the inclusion of these costs in the price modelling for the two Schemes and consequently reduce the costs to be recovered from the Mary Valley Scheme.

Both Pie Creek and Cedar Pocket are under-recovering and in accordance with Queensland Government pricing policy, the proposed prices have not changed with this cost inclusion.

2.2.5.1. Cedar Pocket – Final position

The total cost of this program is \$0.06 million and represents the meter renewal of three meters (50 mm, 80 mm and 100 mm sizes). These three meters were installed in 2015 and are being upgraded to meet compliance with the NMI M10 meter standards. The Krohne E Mag flow meter has been assessed to the best fit-for-purpose meter to meet existing and likely future regulations and standards set by the Queensland Government. The justification of the choice of meter is provided in section 2.1.

The budget and final position presented in Table 5 has been developed in the same manner as Mary Valley and other Schemes.

Table 5 Cedar Pocket Metering Renewal Program (\$nominal)

Scheme	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Beyond FY30
Final position	9,307						55,580					

2.2.5.2. Pie Creek – Final position

The total cost of this program is \$0.24 million and represents the meter renewal of 13 meters (eight 50 mm, four 80 mm and one 100 mm). These meters were installed during 2017 and 2019 and are being upgraded to meet compliance with the NMI M10 meter standards. The Krohne E Mag flow meter has been assessed to the best fit-for-purpose meter to meet existing and likely future regulations and standards set by the Queensland Government. The justification of the choice of meter is provided in section 2.1.

The budget and final position presented in Table 6 has been developed in the same manner as Mary Valley and other Schemes.

Table 6 Pie Creek Metering Renewal Program (\$nominal)

Scheme	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Beyond FY30
Final position		42,025				130,317	111,700					

2.3. Summary cost of meter renewal program by Scheme

The summary expenditure for the Irrigation Meter Renewal Program is shown in Table 7.

Table 7 Metering Renewal Program final position (\$millions, nominal)

Scheme	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Beyond FY30
Cedar Pocket	9,307						55,580					
Logan River	84,754	302,241	245,418			196,892	853,689	84,804	44,882			
Lower Lockyer	59,248	14,741	712	1,891						85,706	247,253	1,858,234
Mary Valley	242,379	198,729	1,682		278,551			540,582				
Morton Vale Pipeline									424,620			
Pie Creek		42,025				130,317	111,700					