

The Members
Murray-Darling Basin Authority
33 Allara Street
Canberra, ACT 2601


17 May 2019

Dear Members

Reasonable assurance engagement on compliance, in all material respects, with the water trade price reporting requirements established by the Murray-Darling Basin Authority ('MDBA') as evaluated against s12.48 of the Basin Plan 2012 made under subparagraph 44(3)(b)(i) of the Water Act 2007 ('s12.48 of the Basin Plan 2012'), for the period from 1 July 2017 to 30 June 2018.

Please find herewith our reasonable assurance report and detailed findings in respect of compliance, in all material respects, with the water trade price reporting requirements established by the MDBA as evaluated against s12.48 of the Basin Plan 2012 in accordance with ASAE 3100 *Compliance Engagements* (ASAE 3100).

Yours sincerely



Chi Mun Woo
Partner
Chartered Accountant
Sydney, 17 May 2019

Part A – Assurance Report

Independent Assurance Report to the Members of Murray-Darling Basin Authority

Disclaimer of Opinion

We were engaged to undertake a reasonable assurance engagement on compliance, in all material respects, with the water trade price reporting requirements established by the Murray-Darling Basin Authority ('MDBA') as evaluated against s12.48 of the Basin Plan 2012 made under subparagraph 44(3)(b)(i) of the Water Act 2007 ('s12.48 of the Basin Plan 2012'), for the period from 1 July 2017 to 30 June 2018.

Because of the significance of the matters described in the *Basis for Disclaimer of Opinion* section of our report, we do not express an opinion on compliance with the water trade price reporting requirements, as evaluated against s12.48 of the Basin Plan 2012 for the year ended 30 June 2018.

Basis for Disclaimer of Opinion

We conducted our engagement in accordance with the Standard on Assurance Engagements ASAE 3100 *Compliance Engagements* ('ASAE 3100') issued by the Auditing and Assurance Standards Board.

In performing our procedures, we obtained the following evidence;

- For 43% of our samples, audit evidence either did not exist or was not provided, including validity of justifications for disclosures of \$0 trades.
- In certain instances, we were not able to perform any procedures as some Basin State Water Authority representatives cited privacy concerns about data they considered commercial in confidence and so did not provide relevant evidence. In other instances, even if we had been provided with the contact details of the water market participants, our multiple attempts at making contact were unsuccessful.
- Through interviews with data owners and process walkthroughs, we were unable to identify a sufficient number of relevant controls that either prevent or detect misstatements relating to compliance with s12.48 of the Basin Plan 2012. Therefore no testing of controls was performed.
- 50% of our samples, reflected known errors (23% quantifiable) and unknown errors (27% unquantifiable due to lack of sufficient appropriate audit evidence to verify water value).
- There is no price disclosed in public registers for 33% of the total volume of water traded for the 12 months ended 30 June 2018.

The samples tested were considered representative of the entire water trade price population as we interviewed water brokers and individual water traders who operate across multiple states. In addition as highlighted above, we were not able to contact certain segments of the population.

Therefore, we concluded that the matters identified above are pervasive across the population. Accordingly, we concluded that the evidence obtained was not sufficient and appropriate evidence to form an opinion.

The MDBA's Responsibilities

The MDBA is responsible for:

- The compliance activity undertaken to meet water trade price reporting requirements per s12.48 of the Basin Plan 2012;
- Identifying risks that threaten the compliance with s12.48 of the Basin Plan identified above being met;
- Identifying, designing and implementing controls to support and monitor compliance with the requirements of s12.48 of the Basin Plan 2012. .

Our Independence and Quality Control

We have complied with the independence and other relevant ethical requirements relating to assurance engagements, and apply Auditing Standard ASQC 1 *Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, and Other Assurance Engagements* in undertaking this assurance engagement.

Assurance Practitioner's Responsibilities

Our responsibility is to express an opinion on compliance, in all material respects, with the water trade price reporting requirements, as evaluated against s12.48 of the Basin Plan 2012 for the year ended 30 June 2018. ASAE 3100 requires that we plan and perform our procedures to obtain reasonable assurance about whether, compliance is met, in all material respects, with the water trade price reporting requirements as evaluated against s12.48 of the Basin Plan 2012, for the year ended 30 June 2018.

However, because of the matters described in the *Basis for Disclaimer of Opinion*, we are not able to obtain sufficient appropriate evidence to provide a basis for a reasonable assurance opinion on compliance with the water trade price reporting requirements, as revaluated against s12.48 of the Basin Plan 2012.

Inherent Limitations

Because of the inherent limitations of an assurance engagement, together with the internal control structure it is possible that fraud, error, or non-compliance with compliance requirements may occur and not be detected.

A reasonable assurance engagement for the 12 months ended 30 June 2018 does not provide assurance on whether compliance with the s12.48 of the Basin Plan 2012 will exist in the future.

Restricted Use

This report has been prepared for use of the members of MDBA in order to assist in understanding compliance with price reporting requirements of s12.48 of the Basin Plan 2012. We disclaim any assumption of responsibility for any reliance on this report to any person other than the MDBA or for any purpose other than that for which it was prepared.

It is our understanding that the MDBA may publish a copy of our report on their website. We accept no responsibility to any person or entity, apart from the MDBA that is provided with, or obtains a copy of our report, without our written agreement. No other person or entity is entitled to rely, in any manner, or for any purpose, on this report. We do not accept or assume responsibility to anyone other than the MDBA for our work, for this report, or for any reliance which may be placed on this report by any party other than the MDBA.

Deloitte Touche Tohmatsu

DELOITTE TOUCHE TOHMATSU

Chi Mun Woo

Chi Mun Woo
Partner
Chartered Accountant
Sydney, 17 May 2019

Part B – Detailed Findings and recommendations

We report our key findings from our reasonable assurance engagement on compliance, in all material respects, with the water trade price reporting requirements established by the Murray-Darling Basin Authority ('MDBA') as evaluated against s12.48 of the Basin Plan 2012.

The findings and recommendations that are provided in Part B should not be construed as providing an opinion on the matter being audited as a whole, instead they should be read in the context of providing evidence to support the conclusion in Part A. These findings, conclusions and recommendations are designed to inform the members of the MDBA of any compliance issues and will be used, in part, to better inform the MDBA's regulatory decisions. The below recommendations are directed to the MDBA as regulator of s12.48 of the Basin Plan 2012. Any reference to other stakeholders including, Basin State water authorities and the Bureau of Meteorology ('BOM') are made only as key stakeholders within the regulated community. Therein, any consideration of our recommendations are the responsibility of the MDBA.

Findings	Recommendations
<p>1. In multiple instances, we observed trades processed that were non-compliant with s12.48. This is primarily due to a mix of broker, trader, and Basin State water authority representatives' confusion around the existence and/or purpose and application of s12.48. Behaviour that is inconsistent with s12.48 is also enabled via a lack of trade price reporting controls. We have seen instances where:</p> <ul style="list-style-type: none"> • Brokers interviewed were clear that reporting price was compulsory but all individual traders interviewed were either unaware of, or did not view reporting price as a requirement. We found inconsistent application of s12.48 by brokers meaning trade prices were not always reported consistently with the commercial nature of the trade. • Pricing is not mandatory on most Basin State trade application forms so 'blank' prices have been in instances accepted and processed inappropriately at \$0. 	<p><i>For the MDBA and Basin State water authorities</i></p> <ol style="list-style-type: none"> 1. Price reporting should be made mandatory across all Basin States trade applications which includes establishing an effective control environment to ensure compliance with s12.48. 2. Additional support should be provided to brokers and traders through information guides, training sessions and reporting templates to ensure both standardised and accurate price reporting. 3. Effective and regular engagement should be conducted with brokers and traders on price reporting through a stakeholder advisory panel or another suitable engagement mechanism. Regular communication will facilitate continuous and ongoing feedback for improvement including understanding of price reporting requirements and any barriers to compliance. 4. Explore online portal capabilities for participants entering of trade information. This will reduce manual keying errors and double handling of Basin

Findings	Recommendations
<ul style="list-style-type: none"> • Instances where entitlements and allocations were traded within a single contract and the entitlement was inappropriately reported at the full contract consideration while the accompanying allocation trade was recorded inappropriately at \$0. We have also seen entitlements inappropriately classified in allocations registers which distorts price per megalitre (ML) as allocations attract a much lower price. • Where land and water entitlements are sold under one contract, the proportionate value of water is often unknown so we have seen instances of the water trade processed inappropriately at either the total combined contract value, or at \$0. • Where brokers need to purchase water from multiple sellers to meet a buyer’s request, contract price may not be proportionately allocated across all trades which misstates average price per ML. • 43% of trades sampled were unable to be supported with sufficient appropriate audit evidence to support prices processed, reflected largely by insufficient record keeping and lack of price reporting accountability. • Most processing of trade data is done through manual application forms which increases time taken to process. Only (approximately) 70% of Victorian allocations volume is processed via online portals. 	<p>State trade applications while freeing resources for monitoring of price reporting (for example).</p>
<p>2. From public registers, market participants cannot readily obtain a clear and accurate view of the market value of water. This is compounded by the following:</p> <ul style="list-style-type: none"> • There are 47 individual public water registers across 4 Basin States (excluding ACT), each with varying levels of disclosed detail and consistency. 33% of total volume traded in the 12 months to 30 June 2018 is disclosed in public registers <u>without</u> price. 	<p><i>For the MDBA, the BOM, and Basin State water authorities</i></p> <ol style="list-style-type: none"> 5. Build on the BOM’s system capability in developing a single and reliable source of price information to encourage better market transparency and limit any dependence on brokers. The MDBA should be accountable for this consolidated data set as the s12.48 market regulator. <p><i>For the MDBA and Basin State water authorities</i></p> <ol style="list-style-type: none"> 6. Ensure Basin State public registers disclose all volume traded and associated prices.

Findings	Recommendations
<ul style="list-style-type: none"> • The only consolidated source of basin water trade activity is the Bureau of Meteorology’s (the BOM) public register. Trade information is collected by the BOM from Basin States and is adjacent to, and unreconciled to, the Basin State public registers • 50% of trades sampled were found to be non-compliant with s12.48. This is largely an outcome of Finding 1 above, where instances of prices detailed by brokers, traders and processed by Basin States have been incorrectly recorded. 	<p>7. Consult with key stakeholders in designing an effective compliance framework. The level of transparency, accessibility to price information and timely recording of trades should consider s12.48 regulatory intent, market structure, risk profile of specific trades and the information needs of market participants.</p>
<p>3. Public registers do not appropriately capture and classify the diverse nature of trades and have not kept up with newly developed products in the market.</p> <ul style="list-style-type: none"> • Brokers have innovated beyond pure allocation and entitlement trades with new trade types that attract market prices incomparable to standard products. These products are currently disclosed in public registers side by side with standard trades which inhibits comparability of market prices as well as in instances, resulting in non-compliant price reporting. For example: <ul style="list-style-type: none"> ○ Carryover trades (rented allocations) attract a much lower price per ML as the transfer of ownership is only on a temporary basis. We have seen many of these trades reported inappropriately at \$0 because they are not conventional allocation trades. This does not reflect their commercial nature. ○ Forward allocation trades are an agreement for future sales of water at hedged prices. The trade application is lodged upon delivery of the water, however the price is agreed at deal date. If market value has moved materially since then, the price attached to this trade may appear incomparable. 	<p><i>For the MDBA and Basin State water authorities</i></p> <p>8. Update Basin State trade applications to delineate commercial details including:</p> <ul style="list-style-type: none"> • Justification fields for \$0 trades. For example; related party or gifts. Justifications on \$0 trades should be mandatory and disclosed in registers so unusual responses or patterns can be investigated for legitimacy. This will also support greater transparency for market participants being able to utilise trade data including comparability of trades • Accommodate greater classification of trade types for example, carryover and forward trades <p><i>For the MDBA, the BOM, and Basin State water authorities</i></p> <p>9. Reflect the detail in recommendation 8 in public registers (the BOM and the Basin States) so market participants are able to distinguish between different trade types for decision making. This would also provide the MDBA with an increased understanding of trade activity to better inform planning, monitoring, and decision making as the s12.48 market regulator</p>

Findings	Recommendations
<ul style="list-style-type: none"> Many trades disclosed at \$0 have been claimed as related party trades (in most instances evidence is not available to support this) which is a legitimate reason for \$0 trades. However, most of these trade types are not delineated from commercial trades in the register which inhibits transparency of average market value prices. Lack of trade classification, particularly on \$0 trades, also makes it more difficult for compliance monitoring and governance oversight. 	
<p>4. Governance and accountability surrounding price data and reporting is not clear and contains duplication. Processes across Basin States vary significantly including:</p> <ul style="list-style-type: none"> Information flow is in many instances complex and involves a multitude of stakeholders in order to process a trade (e.g brokers, water corporations, state departments and agencies, BOM, Land Registry Services etc.) We found errors made at each step in the chain of trade processing and reporting. It is not mandatory for s12.48 to be built into Basin State legislation. Basin State water authorities rarely if ever use pricing information for their own state purposes which largely explains why there are limited to no controls supporting price reporting for s12.48 purposes. There is duplication across the public registers kept by the Basin States and the consolidated register maintained by the BOM Stakeholder incentives to comply with s12.48 differ and should be taken into account in assessing current governance frameworks over water trade reporting as: <ul style="list-style-type: none"> Basin States largely do not collect or use pricing data Brokers are known to consider market prices as their intellectual property and so are partly 	<p><i>For the MDBA and Basin State water authorities</i></p> <p>10. The MDBA should engage with Basin State water authorities and market participants to understand and map underlying challenges and barriers to s12.48 compliance.</p> <p><i>For the MDBA, the BOM, and Basin State water authorities</i></p> <p>11. Develop process and governance maps, from the transactional processing to the BOM’s consolidated register, to map out key players critical to the water market including an analysis of key objectives, incentives, controls, and roles and responsibilities. Based on this, prepare a ‘desired’ governance framework that incentivises stakeholders to report information in line with the purpose of s12.48. This should also consider standardised trade applications across Basin States.</p>

Findings	Recommendations
<p>incentivised for this to remain unclear to facilitate greater reliance by traders</p> <ul style="list-style-type: none"> • Application forms are not consistent across Basin States creating confusion amongst market participants resulting in instances of non-compliant trades. For example, SA collects information in kilolitres whilst other states collect megalitres which has in instances resulted in manual conversion errors. • Once a trade is uploaded to water accounting systems, it either cannot be, or is not in practice updated even if a mistake is later identified. We have seen instances where market participants (brokers and traders) have not updated Basin States upon identification of errors. 	
<p>5. Currently, neither Basin States nor the MDBA perform any cyclical monitoring of water market participants compliance with s12.48. The data available in the Basin State and the BOM public registers are not sufficiently detailed to support an effective compliance activity.</p> <ul style="list-style-type: none"> • Basin State public registers do not delineate between Basin and non-Basin water sources. This inhibits delineation of pricing data which is required for effective compliance activity. • The only consolidated trade price data set is managed by the BOM which is often inconsistent with the Basin States' public registers as: <ul style="list-style-type: none"> • System errors mean that when Basin data is selected for extraction, the entire national water market data (including non-Basin sources) is downloaded. This means consolidated Basin data is not easily viewable. • There is no reconciliation between the Basin States public registers and the BOM's consolidated public register. 	<p><i>For the MDBA and Basin State water authorities</i></p> <p>12. The MDBA should establish regular cyclical monitoring of s12.48 compliance. Depending on results of governance mapping in recommendation 11, Basin States may also be required to perform cyclical monitoring on the MDBA's behalf.</p> <p><i>For the MDBA and the BOM</i></p> <p>13. To enable effective compliance monitoring the MDBA should work with the BOM to improve existing data infrastructure. The MDBA as the Basin Plan regulator should have ultimate ownership and accountability over this data source. Effective data capability for pricing should include:</p> <ul style="list-style-type: none"> • Ability to spot outlier prices to target investigations towards suspect data and initiate corrections where appropriate. The monitoring regime can also drive cyclical audits (internal and or external) • Exception reporting in reconciling data sets • Ability to differentiate between unique trade types to compare like-for-like trades • Delineation between Murray-Darling Basin ('MDB') rivers sources and non MDB sources

Findings	Recommendations
<ul style="list-style-type: none">• Completeness and accuracy of pricing data provided to the BOM relies on a robust control environment at the Basin States. Per Finding 1 above, multiple transaction errors have been identified which are reflected in the BOM data.• QLD does not disclose allocation trade prices to the BOM so these trades are processed at \$0	

Deloitte Touche Tohmatsu

DELOITTE TOUCHE TOHMATSU

CM/W

Chi Mun Woo
Partner
Chartered Accountant
Sydney, 17 May 2019