

EXPLORATORY ESSAY

SETTING THE INITIAL WATER RAB FOR SA WATER

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Background

In August 2018, the SA Treasurer established an inquiry into water pricing in South Australia. The Inquiry is to help advise the Government if the revenue SA Water is permitted to raise from its drinking water retail service reflects the cost of providing these services.

The Inquiry's Final Report (due by 30 June 2019) will be considered by the Government and may inform the value of the Regulated Asset Base (RAB) and related matters for the next regulatory determination by the Essential Services Commission of SA (ESCOSA) for SA Water covering the period 2020-21 to 2023-24.

The Terms of Reference of the Inquiry are as follows.

TERMS OF REFERENCE

- 1. The Inquiry will consider and report on the following matters relevant to the regulation of SA Water's drinking water services:**
 - a) The reasonableness of the opening value of SA Water's regulated asset base (RAB) established by the Second Pricing Order made by the then Treasurer on 17 May 2013, including:**
 - i. Asset valuations used to establish drinking water prices in the years leading up to 2013;**
 - ii. The process for settling the initial RAB for 2013;**
 - iii. The treatment of customer contributions in setting the Initial RAB;**
 - iv. The treatment of the capital costs (and Commonwealth funding) for the Adelaide Desalination Plant in setting the Initial RAB;**
 - v. Compliance with the National Water Initiative Pricing Principles in relation to the recovery of capital expenditure;**
 - vi. RABs for drinking water services in other jurisdictions, having regard to the key drivers and variables that may affect the value; and**
 - vii. Any other matter which may contribute to an understanding of the level of the SA Water drinking water services RAB.**
 - b) Whether there should be a change to the value of the Initial RAB (as subsequently adjusted each year since 2013 for depreciation and inflation) for the 2020 Price Determination by ESCOSA.**
- 2. If there are any changes proposed to the RAB valuation, the Inquiry will also consider and report on a possible implementation program and timetable which would ensure a fair and reasonable balance between the interests of consumers and the Government (as Owner of SA Water).**
- 3. The Inquiry will also consider whether there are issues associated with setting the allowed return on the RAB, including whether the methodology should anticipate inflation and returns expected by the market during the relevant regulatory period, to ensure a fair and reasonable balance between the interests of consumers and the Government (as Owner of SA Water).**

Additional guidelines for the Inquiry are that actual SA Water water charges are not to be considered, and neither are costs included by ESCOSA in its water pricing determinations by virtue of them being included in a Direction issued by the Minister for Environment and Water under Section 6 of the Public Corporations Act 1993.

In conducting the Inquiry, the Independent Inquirer may have regard to reviews, recent developments and practices relating to the economic regulation of utilities in Australian and overseas jurisdictions.

Water pricing has been a challenging issue in South Australia since about 2004, when many changes were introduced under the Council of Australian Governments' programs to address competition, productivity and government monopoly business operations. In particular, the National Water Initiative (NWI) comprised a number of specific measures targeting the predominantly government-owned water and waste-water sectors, which coupled with the severe drought at that time, resulted in significant water price increases over the period up to 2013.

It should be noted that this Inquiry is only addressing the water services business of SA Water, not the wastewater business. Of course, SA Water is a water and sewerage business, with its overall financial return to the Government (as its Owner) and the impact on the State Budget determined by both parts of the business. Issues in the sewerage business can also influence the water business, and vice versa. In 2004, sewerage accounted for about 45% of total revenue, but today it is about 30%. If the modelling and treatment of both businesses has been the same over the period from 2004-05 to today, the only explanation ought to be the different changes in capital and operating expenditures for each business (assuming demands are the same). Some of the observations about the causes for increases in water revenues might also be applicable to the waste-water business (albeit at a different scale), but that is not part of this Inquiry.

The NWI approach to water pricing (the so-called building block approach) requires consideration of three broad components: a return on the capital invested, an allowance for depreciation of the assets, and the efficient operating costs of the business. Because the water industry is capital intensive, this approach inevitably means that (certainly in SA), around 65% of the allowable revenue is derived from the first two components, and these are both closely linked to the value of the assets.

The remaining 35% of the allowable revenue comes from operating costs, and over the years these have been subjected to intense scrutiny by Governments, regulators and independent reviews (and the Board and Management of SA Water). While undoubtedly there is room for identifying further efficiencies in operating costs, that is done every few years by regulators (such as ESCOSA in SA) and continually by management, and costs are benchmarked nationally for all businesses. These reviews of operating costs have generally confirmed that SA Water is operating in the top quartile of water businesses in terms of the efficiency of its operations; the prime reason for high water costs is the high return on and return of capital, based on the value of the regulated asset base (the RAB).

This Inquiry is therefore focused almost entirely on the value of the RAB; there is little extra to be gained by repeating the work that ESCOSA does in reviewing efficient capital and operating costs in each regulatory determination (and especially given that it is about to start another review shortly for the 2020-21 to 2023-24 regulatory period).

This Exploratory Essay is an attempt to summarize the Independent Inquirer's current understanding of the history and circumstances behind the current water asset valuation. It is based on a relatively short review of the publicly available documents and suffers from the Inquirer's lack of intimate knowledge of the process that led to the setting of the initial RAB. It should not be assumed that it is an accurate account, although attempts have been made to make it so by checking with as many involved individuals and organizations as possible.

The purpose of the Essay is to engage with interested parties in an open and transparent manner, to help clarify the issues and to identify the relevant matters for further investigation and analysis as part of the future work program of the Inquiry.

Introduction

At the start of the 21st Century, the delivery of water and waste-water services in South Australia was considered a mature business with minimum new investment requirements; there was adequate capacity across both services to meet requirements, and prices were generally increasing at around CPI. Certainly, the Environmental Protection Authority was putting pressure on SA Water to improve its environmental performance, and there were some major investments into the waste-water plants to reduce discharges into the Gulf waters. To fund this, the Government had allowed some above CPI increases in sewerage charges, and by 2004 the sewerage business was earning good returns (better than the water business).

A key issue at the time was how to ensure SA continued to receive National Competition Policy payments by implementing competition reforms; and another was to undertake reforms in government businesses without impacting negatively on the Budget. The Government considered the prospect of independent price regulation for SA Water around 2004 but rejected the idea and followed a different path which kept responsibility for water and waste-water pricing in the hands of the Department of Treasury and Finance (DTF) and the Government.

In June 2004, the SA Government signed, along with the other States and the Federal Government, the National Water Initiative (NWI) which included a set of water pricing principles (no such principles were developed for waste-water). Some subsequent funding agreements between the Commonwealth and SA governments (eg for funding towards the Adelaide Desalination Plant (ADP)) also required SA Government compliance with these principles as a condition of funding.

In 2009, the SA Government released the Water for Good Plan (WfGP) in response to the NWI commitments and the severe drought, setting out the Government's planned actions to address concerns about the State's water supply security. This included decisions to build the ADP and to interconnect the northern and southern Adelaide water distribution networks. A further key element of the WfGP was the passing in early 2012 of the Water Industry Act, which appointed ESCOSA as the independent economic regulator for the SA water industry from July 2012.

The gradual transition to independent economic regulation saw a number of changes in the process for setting water prices for SA Water. In the period from 2004-5 to 2010-11, DTF would release each year a Transparency Statement which set out the basis on which changes to water prices for the following year had been determined by the Government (called Part A); ESCOSA would review the Statement to ascertain if the process complied with the NWI requirements (called Part B). The Transparency Statement, ESCOSA's review, and the Government's response to the review (called Part C) were then released on the DTF website.

In 2011-12 and 2012-13, the Government released a Regulatory Statement instead of the Transparency Statement. Whilst ESCOSA did not review the Regulatory Statement, it was reportedly engaged by the Treasurer to provide advice on some matters.

Under this Transparency and Regulatory Statement process, water prices increased as follows:

Year	Average Increase %
2012-13	25.0 (nominal)
2011-12	26.3 (nominal)
2010-11	21.7 (real)
2009-10	17.9 (real)
2008-09	12.7 (real)
2007-08	6.4 (nominal)
2006-07	2.5 (nominal)
2005-06	3.0 (nominal)
2004-05	3.5 (nominal)

The full Transparency and Regulatory Statement documentation for each of the years is available from the following link:

<https://www.treasury.sa.gov.au/economy,-taxes-and-rebates/economic-regulation/water-and-sewerage-prices>

Transparency and Regulatory Statement Process

A selective summary of the water pricing process over this period is set out below, to illustrate the evolution of asset valuation practices and decisions.

- **2004-05 Transparency Statement**

The inaugural TS released in early 2004 stated that previous pricing decisions had been broadly in line with Council of Australian Governments (CoAG) principles, but the price-setting approach for 2004-05 specifically considered CoAG's principles in a more structured manner, although it required the Government to make a number of interpretative decisions as the principles are not prescriptive.

The Government announced in December 2003 that water prices would increase by 3.5% from July 2004 (6 months' advance notice was required for water price changes under the then legislative arrangements, but not for wastewater). The TS indicated the Government had complied with CoAG principles to the extent possible at the time, whilst a number of important matters were under review (eg ownership structure of public corporations and water pricing arrangements). Responsibility for water resource management policy and for setting water prices was transferred to separate Ministers and away from the Treasurer.

In adopting the CoAG principles, the TS specifically noted the principle of full cost recovery, and particularly "that water businesses should generate maximum returns without resorting to monopoly pricing, and that these returns should include the opportunity cost foregone on an investment, specifically using a weighted average cost of capital (WACC)". Where this was not possible, the business should recover sufficient costs to ensure the ongoing commercial viability of the business. In other words, the move to full economic cost

recovery opened up the possibility of moving from an accounting cost basis for pricing (using finance costs) to an opportunity cost basis using a WACC.

The TS indicated that full economic cost recovery conceptually defines an upper bound for a water business's revenue generation, and the accounting cost approach established a minimum revenue outcome (as long as an annuity approach for determining the necessary cash to maintain service capacity was implemented).

The 2004-05 prices were set to recover a revenue between these two bounds (and closer to the lower bound). The TS specifically ruled out adopting the "building blocks" approach used by some regulators interstate and overseas. It set out how it had calculated "a real risk adjusted return on the written down replacement cost of assets using a WACC". Regarding the valuation of assets, it noted the CoAG guideline's recommendation to use the deprival value method unless there is justification for another method ["deprival value" is defined in Accounting Policy Statement 3 (APS 3) as 'the entire loss, both direct and indirect, that might be expected to be incurred by an entity if that entity were deprived of the asset at reporting date'].

APS3 required the fair value basis to be applied to the measurement of non-current assets, and the TS claimed that "the valuation result derived under fair value will result in no material practical difference from the result obtained under deprival value – generally both will be valued on a written-down (depreciated) current cost basis". The TS then stated that SA Water's assets were valued according to the optimized deprival value (ODV) method for the year ending June 2002, noting that optimization ensured only the most efficient capital costs were included in the asset base and consumers were not charged for obsolete or redundant assets. The Hunter Water Corporation independently reviewed the ODV methodology in May 2002 and concluded there was "a good correlation between the two organizations in terms of methodology used and the modern equivalent replacement asset types adopted".

The total optimised infrastructure asset value for SA Water was \$6.0b in June 2002, escalated to \$6.4b at 30 June 2003 (comprising \$2.35b of waste-water assets and \$4.05b of water assets). This value included contributed assets. This value was escalated by inflation (1.2%) and new capex (including customer contributions) over the 2 years, and reduced by depreciation expenses, to generate an average value for water assets for the 2004-05 pricing decision of \$4.112 billion (June 2004 prices). The TS commented that the value included contributed assets, which conformed with accounting standards and did not contravene the CoAG guidelines, although it differed from the approach adopted by some interstate regulators.

The reasonableness of this valuation of 2004-05 assets may be an area of interest to the Inquiry.

Having identified a range of possible WACCs (from 6 to 8 % real pre-tax), the TS calculated the maximum and minimum revenue outcomes, and set a target revenue of \$392m, only \$9m above the minimum (and \$73m below the maximum revenue using 6 percent WACC). This resulted in the 3.5% price increase for 2004-05.

In reviewing the Statement, ESCOSA concluded that the process followed by the Treasurer demonstrated general compliance with the CoAG principles and made a number of recommendations for possible improvement (including removal of contributed assets from the asset value, setting a single WACC, and determining an annuity rather than depreciation for the minimum revenue case).

- 2005-06 Transparency Statement

A similar process was followed with a few minor variations, and the previous asset base was rolled forward in the same manner and a new average asset value was calculated. However, after a lengthy discussion on the issues surrounding the inclusion of contributed assets in the asset valuation, and the difficulty (impossibility in its view) of determining the true value of contributed assets, the Government decided to remove the value of contributed assets since the date of corporatization of SA Water, namely 1 July 1995, and estimated the value at 1 July 2004 for water assets as \$94 million (page 29 of the TS describes how this number was derived across water and waste-water assets).

Despite this decision, the TS noted that “due to the significant changes in the treatment of contributed assets, WACC and annuity, the Government considered that for the 2005-06 decision, a new opening balance as at 1 July 2004 would be adopted in determining SA Water’s asset base. It is intended that this asset base would be adopted in future price setting considerations”. Further, during 2003-04 SA water purchased a number of tradeable water allocations and the Government determined that this intangible asset should be included in the infrastructure asset base. Therefore, the 1 July 2004 water asset value was reset at \$4.149 billion, compared to the same number in the 2004-05 TS of \$4.113b, despite removing \$94m of contributed water assets. It is not clear how the new asset value was set, but the opening asset value for 2005-06 (in 2004-5 dollars) was \$4.204 billion.

The treatment of the \$94m contributed water assets and any off-setting actions may be of interest to the Inquiry.

The ESCOSA recommendation to develop an annuity to determine the medium to long term cash requirements for asset replacement was adopted, and a value of \$30m pa was chosen, about 40% of the straight line depreciation number used previously to determine the minimum revenue level.

The changes in methodology between 2004-5 and 2005-6 resulted in reductions in the maximum revenue outcome (primarily by changing the upper WACC value from 8% to 7%), and the minimum revenue outcome (primarily due to the annuity approach but also the removal of \$17m of contributed assets from the water revenue stream – this did not reduce SA Water’s total revenue as this income continued to be received outside water charges). The target revenue (in real 2004-5 dollars) was \$394m (slightly above the previous years’ forecast for 2005-6), some \$42m above the minimum and \$86m below the maximum using a 6% WACC – moving from the 10th to the 33rd percentile of this range over the two years.

Prices were increased by 3.0% on average for 2005-06.

In summary, despite removing \$94m of post-corporatisation contributed water assets from the asset value, both the revenue and the asset value at the end of 2005-06 were slightly higher than forecast in the previous year, as a result of other changes introduced (primarily by adjusting the base year asset value and moving further away from the minimum revenue outcome).

- 2006-07 Transparency Statement

The process largely repeated that of the previous year, and minor modifications were made to address comments from ESCOSA and the National Competition Council. Prices were increased by 2.5% for 2006-07.

The Government again rejected calls to remove pre-corporatisation contributed assets from the asset value, saying there was no sound information on which to base an estimate. It also reduced slightly the 2005-06 opening asset value and increased the roll-forward adjustments as a result of “updated forward estimates” such that a slightly higher opening asset value for 2006-7 applied (but still about \$4.25 billion in 2004-5 dollars). The TS referred to inflating the asset values by 1.2%, allowing for ABS construction industry inflation and “optimization efficiencies”: it is unclear what this ‘optimization’ means and whether it has been applied in other years, as this reference appears to be the only time it appears in any Transparency Statement.

The calculated minimum revenue for 2006-7 (supposedly in 2004-5 dollars) was \$388m, and maximum using a 6% WACC was \$484m – and the Government target revenue was set at \$426m, approximately at the 40th percentile of the range.

However, the 2006-07 TS revised the 2005-06 TS numbers for 2005-06 revenues as follows (all numbers are in real 2004-05 dollars):

2005-06 Revenue Categories (04/5 dollars)	2005-6 Transparency Statement	2006-7 Transparency Statement
Minimum Revenue Outcome	\$352m	\$388m
Maximum Revenue Outcome @ 6% WACC	\$480m	\$482m
Forecast Target Revenue (Govt. Decision)	\$394m	\$423m

The reason for the back-dated increase in the minimum revenue outcome for 2005-06 was a \$10m increase in the tax provision and a \$26m increase in the dividend provision, resulting in a \$36m increase in the minimum; there was a \$29m increase in target revenue. These increases flowed through into 2006-07 and subsequent year revenues. In November 2004 the Government had adopted a new ownership framework for Public Non-Financial Corporations, and in March 2005, approved a dividend payout ratio and target gearing ratio, which provided for SA Water:

- A debt to total assets ratio range of 15-25% for the next 4-5 years, with a target of 20%; and

- A dividend payout ratio of 95%, based on actual after-tax profit.

The overall impact of this change was effectively to restore the reduction in the minimum revenue from the move in 2005-06 to an annuity approach.

The introduction of the new arrangements for tax and dividend, and the apparent lack of any compensating adjustment, may be of interest to the Inquiry.

Also in 2005-06, changes were made to the level of Customer Service Obligation (CSO) Payments from the Government to SA Water, and it is unclear how these changes relate to the PNFC changes above.

Indeed, the impact of CSO payments on subsequent changes to the RAB may be an area of interest to the Inquiry, as it appears to impact on later judgements relating to legacy assets.

- 2007-08 Transparency Statement

In December 2006, the government announced water prices would increase by 6.4% on average in 2007-08, and also approved an in-principle water revenue direction to 2011-12, subject to annual review, that aimed to:

- Recover inflationary impacts
- Ensure gradual adjustment in real water prices towards the “upper revenue bounds” as defined in CoAG agreements, through a 0.5%pa real increase in water charges
- Recover impacts of Waterproofing Adelaide projects and programs through increased real water charges of 2.5% pa.

This was the first time the TS specifically stated an objective to move to the maximum revenue outcome, although in each of the previous years there had been an increasing move away from the minimum revenue limit (and there was a brief reference to this in an Appendix to the 2005-06 TS). The move was given additional impetus by including in the Terms of Reference of the referral of the TS to ESCOSA a specific requirement for it to consider NWI obligations with regard to clauses 65, 66(i) and 66(v) – which were seen to “require” a move to maximum pricing.

Clause 65 of the NWI said that the States agree to bring into effect pricing policies that facilitate efficient water use, including through the use of consumption based pricing and full cost recovery for water services to ensure business viability and avoid monopoly rents. Clause 66(i) for metropolitan systems sought continued movement towards upper bound pricing by 2008, and Clause 66(v) for rural and regional supplies sought continued movement towards upper bound pricing for all rural systems, where practical.

The NWI objectives or commitments need to be seen in the context of a national agreement covering a wide range of water businesses, small and large, many of which were commercially unviable and being subsidized. The language encouraging maximum revenue needs to be taken in context, and as much emphasis could be placed on the words “and

avoid monopoly rents". However, it would appear that the NWI was able to be used to justify actions that pushed higher the revenues able to be derived from providing water services.

The TS stated:

"The NWI requires that metropolitan water businesses should move towards upper revenue bound pricing.... Other jurisdictions have notionally achieved upper revenue bound pricing because regulators have adopted the "line in the sand" approach to determining the regulatory asset value. Under the "line in the sand" approach, regulatory asset values are determined so as to achieve a predetermined revenue target. As a result of the "line in the sand" approach, interstate utility asset values have generally been revised downwards, regardless of the depreciated replacement cost of those assets.

SA Water's regulatory asset base is based on the fair value method which is generally consistent with depreciated replacement cost. South Australia, in common with other jurisdictions, accepts the necessity for a similar long term transition of charges and earnings such that there is movement towards the required rate of return embodied in the upper revenue bound".

As indicated, many interstate water businesses at this time, in complying with the NWI principles, took the opportunity to reduce their regulated asset values. However, the TS noted ESCOSA had endorsed the adoption of the fair value method as compliant with the CoAG /NWI guideline that deprival value methodology should be used for asset valuation, and therefore proposed to continue to use the previous asset valuation and roll forward approach (with post corporatization and new contributed assets deducted from the regulatory asset base).

The TS noted:

"It has become apparent that interstate regulatory practices have implicitly adopted substantially different treatment of contributed assets. This is apparent from the "line in the sand" method of estimating the regulatory asset base. The "line in the sand" method applied by most interstate regulators starts with a desired outcome for a utility's future revenue (and charges) and then 'reverse engineers' the utility's asset values to be consistent with that desired revenue outcome.

The future revenue estimates do not distinguish revenues earned from a utility's existing assets, regardless of whether those assets were originally funded by utility charges or borrowings or arise from customer and developer contributions. Earnings on existing assets are effectively "locked in" as a legacy issue. The estimation and deduction of the value of past contributed assets from the regulatory asset base is overtaken by this approach. In common with other jurisdictions, the SA Government regards earnings on existing assets (whether contributed assets or otherwise) as a legacy issue.

On the other hand, it is considered preferable for SA Water's regulatory asset base to be valued at the depreciated replacement cost as this reflects the service

potential of SA Water’s assets and the need for eventual replacement of legacy assets.” (emphasis added).

It is clear from these statements that a deliberate decision was taken at this time not to adopt the interstate approach of reducing legacy asset values, and instead to continue with a “fair value” valuation of the regulatory assets and a target of achieving the maximum return on that asset value.

The TS also for the first time flagged the significant future capital expenditures associated with Waterproofing Adelaide initiatives, up to \$245 million over the next 20 years. This was a clear warning that prices would increase significantly as these decisions flowed through into the asset valuation and return on assets (although it was clearly a gross underestimate of the actual costs incurred over the following 5 years).

The opening asset value for 2007-08 was \$4.548 billion in current dollars, escalating to \$4.706 billion by year end with \$135 million of capex, \$114 million of inflation escalation and \$91 million of depreciation (this was the first TS where the provision for inflation of regulatory asset values exceeded the depreciation provision, a situation that continued thereafter such that the nominal value of the asset base continues to grow).

The TS included forecasts of the value of the asset base in 2008-09 and 2009-10, but with clearly very low estimates of capex of only \$90m in 2008-09 and \$46m in 2009-10 despite Waterproofing Adelaide initiatives.

As in the previous year, the 2007-08 TS included revised numbers for 2006-07 revenues (all expressed in 2005-06 dollars by converting 2004-05 dollars with 2.5% escalation):

2006-07 Revenue Categories (05/6 dollars)	2006-07 Transparency Statement	2007-08 Transparency Statement
Minimum Revenue Outcome	\$398m	\$407m
Maximum Revenue Outcome @6% WACC	\$496m	\$514m
Forecast Target Revenue (Govt. Decision)	\$437m	\$453m

The 2007-08 TS numbers for the 2006-07 year are slightly higher than the previous year’s TS on which the 2006-07 prices were set and seem to arise from higher operating costs and slightly higher tax and dividend payments. There appears to be a trend developing of recovering more revenue than was the basis for setting prices in the TS forecast for that year?

The forecast target revenue for 2007-08 (in 2005-06 dollars) was set at \$459m, compared to a minimum revenue outcome (now called a “lower revenue bound”) of \$402m and an upper revenue bound of \$520m – or around the 48th percentile of the range, continuing the gradual climb to upper bound pricing.

- 2008-09 Transparency Statement

The most striking feature of this TS is the discussion on the drought and water security. Level 3 water restrictions were introduced for domestic consumers in October 2007, with a noticeable impact on water sales and revenue. The first mention of a \$1.1b desalination plant is made, together with further elaboration on the Waterproofing Adelaide initiatives. The TS warns that these major infrastructure investments will need to be funded through water charges, and the Government's pricing decision was to increase water charges in real terms by 12.7% for 2008-09.

For planning purposes, a longer term "in principle" revenue direction for the 4 years to 2012-13 was endorsed amounting to water price increases each year of the same magnitude as for 2008-09.

In setting the price, the significant changes to the previous TS assumptions were:

- Asset value escalation was increased to 3.5% pa, to reflect market expectations of inflation
- Capital expenditures were significantly increased, as were inflation and depreciation provisions (\$ million nominal):

	2006-7	2007-8	2008-9	2009-10	2010-11	2011-12	2012-13
Capex	123	182	156	521	759	514	560
Inflation	154	161	169	177	198	227	249
Depreciation	95	100	104	107	111	133	156

- Increases in operating expenses associated with increasing electricity, water sourcing and chemicals expenses
- An adjustment to forecast dividend payments (less increased CSO payments) to hold at previously established levels prior to the drought emergency (only affecting the Lower Revenue Bound)
- The adoption of a new approach to setting revenue called the Go Forward Full Cost Recovery (GFFCR) method, lying in between the Lower and Upper Revenue Bound methods used previously. The new method preserved the Government's commitment to fair value (depreciated replacement cost) of the asset base, but with a different return on assets based on a SA legacy date of 30 June 2006, consisting of:
 - ❖ Existing returns (ie at the legacy date) on all pre legacy date existing assets on an on-going basis, and
 - ❖ The full WACC of 6% pre-tax real on all post legacy date new and replacement assets (excluding contributed assets).

The GFFCR approach effectively identifies the revenue amount that is required to achieve full cost recovery on a go-forward basis. Section 5.3.1 of the TS stated that the new boundaries for the setting of water revenues were to recover no more than the Upper Revenue Bound and at least the revenue amount based on GFFCR. The GFFCR was seen as the lower limit to demonstrate a move towards full cost recovery over the long term.

For this 2008-09 decision, the Government set a Target Revenue at \$543 million (in 2007-08 dollars) which was \$24million above the GFFCR level, and nearly at the 60th percentile on the lower to upper range (see Table below).

The target revenue was projected to be above the GFFCR level for the following two years (on the 63rd and 58th percentiles). The TS explanation for the over-recovery in these three years (2008-09 to 2010-11) was that it was to compensate for the under-recovery (using this method) in 2004-05, 2006-07 and 2007-08.

Revenue Categories (07-8 dollars)	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Upper revenue bound	\$578m	\$591m	\$620m	\$668m	\$735m	\$803m
GFFCR	\$505m	\$519m	\$549m	\$597m	\$665m	\$734m
Lower revenue bound	\$425m	\$474m	\$502m	\$543m	n.a	n.a
Target Revenue	\$496m	\$543m	\$577m	\$615m	\$665m	\$734m

While page 48 of the TS indicated that lower prices could have been adopted at the start of the 5 year planning period, it would have resulted in significantly higher prices later if SA was to meet its obligations. Of course, another way of meeting its perceived obligation would have been to draw a lower “line in the sand” RAB value as a number of other jurisdictions are reported to have done, but this does not appear to have been a consideration. The NWI Principles also required consideration of avoiding monopoly pricing.

As the calculations behind the new GFFCR approach are not provided in the 2008-09 TS, it is difficult to see how this change has been implemented. The only difference between the Upper Regulatory Bound and the GFFRC is that a proportion of the asset base receives a 3.1% real pre-tax return and the remainder (new capex since July 2006) receives a 6% real pre-tax return. The 2008-09 TS does not provide the breakdown into the two asset groupings (this is provided the following year!).

The use of the GFFRC approach to justify higher increases so as to “meet SA’s obligations” may be an area of interest to the Inquiry, as it appears there were other ways of satisfying the Commonwealth Government’s threats to cease competition payments.

- 2009-10 Transparency Statement

The drought continued to dominate discussion in this TS, as the Government announced additional measures to improve water security. The TS indicated that water prices would increase by 17.9% in real terms in 2009-10, well above the level indicated just 12 months previously. Construction of the desalination plant was to be accelerated, with completion a year ahead of the previous schedule.

Apart from updating cost estimates relating to these new initiatives, the main changes to the revenue setting process in 2008-09 were as follows:

- The regulatory depreciation schedules were revised to reflect the new categories of pre and post legacy construction; legacy assets were estimated to have a useful life of 50 years, and all other new or replacement assets were given an estimated life of 60 years except for water security related projects where their life was separately identifiable. The 60 years life for new assets replaced the previous assumption of 100 years and resulted in a small increase in the GFFCR. It is not clear if the new life of 60 years is supported by the evidence.
- Demand forecasts for water consumption were decreased from 223 GL in 2008-09 to 202GL in 2012-13.

The combined effect of these changes was to result in a significantly higher GFFCR for each year relative to the 2008-09 estimates. As a result, the price path was increased above the 2008-09 TS path levels, and aimed to reach the higher GFFCR level by 2013-14 (but it was still below the Upper Revenue Bound calculation).

The calculations now categorised the assets into Metropolitan (legacy and new assets) and Country assets, and different returns on assets were applied. There were no Country assets classified as legacy, a surprising outcome. It is not clear if this is how the assets were treated in the 2008-09 TS: if so, there was no statement to that effect and indeed it was implied that all pre June 2006 assets were to be allocated the existing return of 3.1% real.

The full 6% WACC was applied to all of the Country assets and the new assets for Metropolitan water, and the 3.1% return applied only to the Metropolitan legacy assets. Forecast revenue from Country assets (including the CSO contribution from government) achieved the Upper Regulatory Bound target in all years from 2009-10 onwards, whereas forecast revenue from Metropolitan assets grew from 75% of the Upper Revenue Bound in 2009-10 to 90% in 2012-13 (and grew from about 90% of the GFFCR to over 100% in that period). The NWI principles talk about the objective of Metropolitan assets moving towards full cost recovery, and the possibility of Country assets doing so: but the CSO contribution from Government towards country water costs somehow means they are not legacy assets as they are by definition returning 6%. The logic of this, and the implications for subsequent decisions relating to the RAB, need further detailed consideration.

The 2009-10 TS reports Legacy water assets as \$2.537 billion for 2006-07 in real dollars, whereas asset values in 2006-07 (ie the legacy time) were reported as about \$4.1 billion. The difference (with the benefit of hindsight) is presumably the outcome of not treating Country assets as legacy.

The treatment of Country assets, in not classifying them as Legacy assets, and the relationship to CSO payments, may be of interest to the Inquiry, as to whether this was potentially non compliant with NWI guidelines and standard regulatory practice.

It becomes very difficult to compare numbers with previous years, given the large number of changes and the use of different base year dollar reporting. The total forecast water revenue from Metro and Country for 2009-10 in the 2009-10 TS is \$592m (real), which is about \$14m below the previous TS forecast revenue for 2009-10 of \$577m in 2007-08 dollars, assuming inflation of 2.5%pa. So there may have been a small reduction in target revenue as a result of these changes, but given all the other changes, it is not possible to be so certain.

The forecast SA Water net profit before tax (but including waste water services as well) was expected to be \$271m in 2009-10, \$33m higher than the estimate for 2008-09, and was forecast to increase to \$360m by 2012-13: it is not clear how this compares to the commitment in 2008-09 that dividends paid would not grow above the levels indicated prior to the water security investments?

Further work may be justified to explore the impact of price changes on SA Water's profit, tax and dividend levels – although it will be difficult given SA Water consolidates all its business operations into one set of financial accounts (and does not separately report for the water business).

- 2010-11 Transparency Statement

The Government announced that water prices for 2010-11 would increase by 21.7% in real terms, continuing the significant increases of prior years. It had previously announced an expansion of the Adelaide Desalination Plant to double its original capacity and a number of other network improvements.

The TS continued to assert compliance with the NWI pricing principles, based on ESCOSA and National Water Commission assessments, in particular its adoption of fair value asset valuation, full cost recovery, and its move towards upper bound pricing.

In setting 2010-11 prices, the TS continued the approach of the previous year in separating out Metropolitan assets from Country assets, dividing Metro assets into legacy and new assets, and treating Country assets effectively as all new (and applied a 3.1% real return to Legacy assets and 6.0% to New assets). Looking at the impact of this over the following 4 years, with lumpy and large capital expenditures, it developed a smoothing approach to price increases to recover the required revenue over the period rather than on a year to year basis.

Although the TS separately considered the Metro and Country assets, the table below presents them as a consolidated business as was the case prior to the 2009-10 TS (prices are in 2007-08 million dollars):

2010-11 Transparency Statement

Real (\$2007-8)	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Legacy assets	2481	2452	2422	2391	2360	2327
New Assets	550	1357	1791	1900	1998	2102
Country Assets	2273	2322	2352	2353	2339	2366
Total Assets	5304	6131	6565	6644	6697	6795
Upper Revenue Bound	674	745	846	833	881	895
1.GFFCR plus Country URB	602	674	776	764	812	827
2.Country as Legacy	536	607	708	696	745	758
Targetted Revenue	513	627	679	728	807	936

The effect of categorizing all Country assets as New can be illustrated in the table, where the GFFCR is added to the Country URB (using firstly a 6% WACC and then a 3.1% WACC). Treating the Country assets as legacy reduces the allowable revenue by approximately \$64m per annum and would result in the targeted revenue exceeding the corrected GFFCR in virtually every year.

More importantly for future pricing decisions, the projected revenue path (the last line in the Table above) is set on a steeply increasing slope, presumably driven mainly by projected estimates of costs for water security investments. This path is particularly relevant when there is a dramatic increase projected for 2013-14 (the first year of independent price regulation where the RAB is to be set by the Treasurer drawing a "line in the sand" to preserve this price path and avoid a price "shock").

- 2011-12 Regulatory Statement

Having flagged that ESCOSA would assume responsibility for setting water prices from 2013-14, the practice of it reviewing the Transparency Statement each year was ceased, and instead a similar document called a Regulatory Statement was released.

It is understood ESCOSA may have provided some comments on inputs to the RS, but it is not apparent what they were and if they were incorporated. If they concerned the efficient level of SA Water's capital and operating costs, it is difficult to understand where it would

have acquired such information as it had not commenced detailed work on the water industry at that time.

The method adopted for setting prices appears to be identical to the 2010-11 TS approach. It is, however, very difficult to analyse the numbers as the information provided in places does not easily align (eg the average asset values for the years 2012-13 to 2014-15 in Tables 11 and 12 are higher than the closing asset value reported in Table 9).

The Government announced a price increase of 26.3% for the 2011-12 year.

Additional costs were included (such as ESCOSA’s costs for independent price regulation and water planning and management costs of the Department for Water).

The TS noted that the previous TS had signaled the need for significant price increases up to and including 2013-14 to fully recover costs, and the Government had carefully reviewed these estimates and reduced the estimated revenue requirement. As a result, the previously anticipated increase in 2013-14 was no longer required, and indeed would be set by ESCOSA.

It is possible to re-create the Table presented in the previous section, with the updated information (unfortunately, in this case all numbers are in nominal dollars):

2011-12 Regulatory Statement

Nominal \$million	2010-11	2011-12	2012-13	2013-14	2014-15
Legacy assets	2608	2644	2649	2653	2655
New assets	1851	2087	2329	2367	2403
Country assets	2534	2606	2676	2739	2804
Total Assets	6993	7337	7654	7759	7862
Upper Revenue Bound	813	993	999	1038	1030
1. GFFCR plus Country URB	737	916	922	961	953
2. Country as legacy	663	841	844	882	872
Targeted Revenue	710	842	953	972	993

As in the previous table, the second line in the “GFFCR plus Country URB” row is the revised number if Country Assets are treated as legacy assets with a 3.1% WACC.

It is difficult to compare the numbers, as the assumed inflation rate to convert from 07/08 prices in the previous table to nominal in the above table is not provided, but assuming it is 2.5%pa, it can be concluded that the target revenue for 2013-14 is well below the number in the previous year's TS, whereas the other years are broadly in line.

The targeted revenue for 2011-12 is below the GFFCR plus Country URB level, but not if the adjusted number treating Country assets as legacy assets is used. Going forward, the targeted revenue is higher than both versions of the GFFCR plus Country URB number, suggesting a higher price path than necessary for the 3 years from 2012-13 to 2014-15 (ignoring any concept of recovery of under-revenues from the past).

It should be noted that the average value of water assets for the year 2012-13 was forecast to be \$7.654 billion (in nominal dollars of Dec 2012). These assets exclude post-corporatization contributed assets.

- 2012-13 Regulatory Statement

The final Regulatory Statement is important as it sets the parameters for the first ESCOSA regulatory determination and closes the chapter on the dramatic increase in expenditures that occurred in response to the water security crisis. The Government announced that water prices would increase by 25% from the commencement of 2012-13 but expected CPI-like increases would apply thereafter.

The approach was similar to that followed in the previous RS. However, it stated that water consumption levels had not rebounded after restrictions had been lifted, and consequently demand forecasts and operating expenses had been adjusted.

The following table compares the key parameters from the two Regulatory Statements (RS1 and RS2). All numbers are in million dollars nominal:

Regulatory Statement 2012-13

	2011-12 RS1	2011-12 RS2	2012-13 RS1	2012-13 RS2	2013-14 RS1	2013-14 RS2	2014-15 RS1	2014-15 RS2
Average regulated asset base	7337	7226	7654	7469	7759	7685	7862	7887
Upper Revenue Bound	993	903	999	975	1038	1023	1030	1040
GFFCR plus Country URB	916	826	922	899	961	946	953	963
Target Revenue	841	752	844	823	882	868	872	884
	842	811	953	910	972	942	993	973

The values for all parameters in the 2012-13 RS are generally lower than in the previous statement, except for the final year 2014-15 where they are all higher (except the target revenue). Target revenues are generally around the GFFCR plus Country URB level (and therefore well above the adjusted level if Country Assets are treated as legacy). The target revenues are all well within the Upper Revenue Bound.

The average regulated asset base for 2012-13 has fallen to \$7.469 billion.

The revenue growth from 2011-12 to 2012-13 from the 25% price increase can be seen in the target revenue change (\$811m to \$910m), and then the CPI increase assumption sees a steady growth to \$942m and \$973m in the following two years.

There is nothing surprising in these numbers. However, the revenue/price path and asset values become a significant element in the new pricing regime.

Independent Price Regulation

In July 2012, ESCOSA commenced its first independent regulatory review process, with its first price (or more correctly, allowable revenue) determination finalized in June 2013 for the period 2013-14 to 2015-16. Under this process, and in accordance with the Water Industry Act, a Pricing Order may be issued by the Treasurer which binds the Commission to apply certain factors and methodologies in making its determination.

In September 2012, the Treasurer issued the first Pricing Order which (among other things) required the Commission to determine SA Water's allowable revenue for the provision of drinking water services, to adopt a value for the Regulated Asset Base (RAB) to be specified by the Treasurer at a later date, to allow recovery of certain specified non-commercial costs incurred by SA Water, and to comply with the NWI pricing principles.

In February 2013, after an extensive public consultation process, ESCOSA released its Draft Revenue Determination for the 3 year period to apply from 1 July 2013. As the RAB had not yet been specified by the Treasurer, the Draft Determination included some discussion on the principles it understood would be applied in the establishment of the Initial RAB. The Commission wrote to the Treasurer in April 2013 offering its views on these principles, stating that its understanding was that the Initial RAB value would be set to ensure there were no upward price surprises (and that any capital and operating expenditure savings identified by it as part of its review process – relative to the projected numbers for the three year period set out in the Government's 2012-13 Regulatory Statement- would be passed on in full to customers).

In mid May 2013, the Treasurer issued the second Pricing Order which (among other things) set the Initial RAB for drinking water services at \$7.77 billion as at 1 July 2013 (in Dec 2012 dollars). The forecast level of demand was required to be set at 190GL per annum over the

regulatory period, a higher number than SA Water had proposed and ESCOSA had accepted. ESCOSA released its Final Determination in June 2013, which resulted in a water price reduction of 5.5% in nominal terms, reflecting reductions in capital and operating expenditures from the levels included in the 2012-13 Regulatory Statement.

The treatment of Legacy assets in setting the Initial RAB may be of particular interest to the Inquiry, as it appears the previous distinction has been removed and all assets (including legacy) are to be treated identically from 2013-14 onwards, which could contravene the NWI and regulatory practice.

In addition, the apparent holding off on making a decision on the RAB until the last moment (which could be construed as a means of simply adjusting RAB upwards as WACC fell), could be of interest to the Inquiry as this could be a departure from the previous reliance on WDV for justifying the level of the RAB and may reflect the use of monopoly power.

Water prices have in general increased at CPI levels since 2013-14, apart from a nominal decrease of 2.9% in 2016-17 at the start of the second ESCOSA regulatory determination.

Hence, the major increase in water prices occurred over the 5 year period from 2008-9 to 2012-13, when they increased by over 150% real. This resulted in much debate about the justification for these increases, and for the current price level.

Legislative Council Budget and Finance Committee Inquiry

Over the period from November 2014 to late 2015, the SA Parliament took evidence from a number of witnesses to help clarify the issues behind the current water prices, how they had been established, and whether they were justified.

Given that RAB related costs account for around 65% of the allowable revenue (through the return on and of capital), much of the focus of the Inquiry was on the RAB valuation. Specifically, the main concerns raised by witnesses included:

- The process and decisions associated with establishing the Initial RAB in May 2013;
- The arrangements for establishing and adjusting the RAB in the years leading up to 2013, including the treatment of customer contributions;
- How the capital costs of the ADP were treated, including the Federal Government contribution, in establishing the RAB;
- The justification for the high level of RAB relative to the statutory value of assets in SA Water's accounts, when compared to the ratio for other water businesses around the country; and
- The impact on the RAB of the Pricing Order decision to require a forecast level of demand at 190GL per annum.

Department of Treasury and Finance officials, in explaining the increases, emphasized the high levels of capital expenditure over the period associated with the water security initiatives, and the compliance of the pricing process with the NWI pricing principles.

The Committee did not produce a report. However, a full transcript of evidence presented to the Committee is available under the heading Water Pricing on:

<http://www.parliament.sa.gov.au/Committees/Pages/Committees.aspx?CTId=3&CId=310>

The Liberal Party Election Policy for the March 2018 State election (“An End To Spiralling Water Prices”) stated that it would in government establish an Inquiry into water pricing to “inform improvements to the pricing of water “, such that “water users will pay fair and just prices”.

In August 2018, the Treasurer established this Inquiry, which is to report by June 2019.

Asset Valuation Methodology and Issues

The determination of an enterprise’s asset value is of key importance for statutory (financial performance and taxation) and regulatory reporting purposes. Government-owned business enterprises typically operate as monopolies and tend to be capital intensive: this certainly is the case with water utilities across the country. The primary objective of regulatory pricing regimes for these monopoly businesses is to provide appropriate price signals for new (and efficient) investment while ensuring consumers are not exploited: this can be particularly difficult when the government which sets the rules around regulation is also the owner of the business.

There have been many academic and accounting reviews of asset valuation approaches over the years, with a number specifically focusing on water utilities and the link to water pricing. The following is a random selection of a number of such articles:

- Article from 2017 on Drawing a Line in the Sand: Valuing Regulated Assets of the Australian water Industry
<https://onlinelibrary.wiley.com/doi/abs/10.1111/1759-3441.12164>
- Academic discussion paper from 2014, providing a comprehensive overview of theory and practice, from the perspective of accounting
(<https://www.cpaaustralia.com.au/~media/corporate/allfiles/document/professional-resources/education/asset-valuation-government-business-enterprises.pdf?la=en> – see in particular Chapter 6)
- Review of Australian RAB processes for NZ electricity companies undertaken in 2009 by PWC and NERA (<http://www.comcom.govt.nz/dmsdocument/7019> - a general review document)
- Submission to the ACCC on pricing for Telstra from Frontier in 2009
(<https://www.accc.gov.au/system/files/Report%20prepared%20for%20the%20Competitive%20Carriers%27%20Coalition.pdf> – and note that the comparison work is towards the end)

- Paper from Jon Stern, in 2013, from the UK perspective, arguing what RABs are for; as a device for regulatory commitment where the explicit US-style legal backing is not present (https://www.city.ac.uk/data/assets/pdf_file/0010/167617/CCRP-Discussion-Paper-22-Stern-March_13.pdf)
- An assessment from 2005 working through an example of a “line in the sand” approach which equates asset values to a defined set of prices, similar to the SA approach (http://regulationbodyofknowledge.org/wp-content/uploads/2013/03/AllenConsultingGroup_Review_of_Asset.pdf)
- The approach taken by the ERA in setting asset bases since 2005 is covered in the most recent water pricing inquiry in WA undertaken in 2017, and summarized from page 378 (<https://www.erawa.com.au/cproot/18490/2/Inquiry%20into%20efficient%20costs%20and%20tariffs%20of%20the%20Water%20Corporation,%20Aqwest%20and%20Busselton%20Water%20-%20Final%20Report.pdf>)

Most regulatory determinations of the past two decades have some discussion on the asset value, and different approaches have been adopted across Australian and overseas jurisdictions: there is not one agreed approach, although most are variations on a theme. Most regulatory asset values have some relationship to the statutory financial asset valuation, but the relationship is not clear and direct (and obviously depends on the widely different approaches adopted in valuing both the statutory and the regulatory asset value for each business).

Governments have increasingly agreed that the asset valuation for their statutory financial statements should be determined using the “fair value” method, as defined in International or Australian accounting standards. AASB 13 (Fair Value Measurement) and AASB 116 (Property, Plant and Equipment) state that fair value can be estimated using either an **income** or a **depreciated replacement cost (DRC)** approach. An income approach essentially looks at the net present value of the income streams forecast to be generated by the assets into the future; the DRC approach essentially looks at the cost of replacing the assets. The main challenge with the income approach is the circularity problem (prices need to be set to generate income streams, but the resulting asset value is then used to determine the prices); and the challenge in determining replacement costs is the sheer intellectual task of determining efficient costs of replacing assets given existing cities, new technologies and cost uncertainties.

Putting aside the challenges for establishing asset values for statutory financial reporting and taxation, the challenge for setting **regulatory** asset values is of a different nature (while clearly needing to have some common linkage to the former). The primary purpose of regulatory asset valuation is to set a price for the most efficient cost of providing the good or service, but it must also ensure that the revenue generated is sufficient to facilitate investment in ongoing asset replacement and business expansion.

Given the difficulties arising from the circularity problem with asset valuation, one approach followed in Australia for the water industry has been to adopt an asset valuation at the commencement of regulation such that prices are maintained at the then current level (the so-called “line in the sand” approach).

Indeed, it is worth quoting from the NWI Pricing Principles Part 1: Principles for the Recovery of Capital Expenditure (especially given that the SA Government committed to applying these Principles in its water pricing approach):

“9. There are a number of matters that need to be considered in establishing the initial asset base. These include

- a) The methodology used to value the initial asset base* (including decisions on whether and where to draw a ‘line in the sand’). In establishing this initial value, consideration is given to the extent to which past capital expenditure is deemed to be excessive for the needs of current users or was contributed by others and therefore excluded from the initial asset base; and*
- b) The way in which contributed assets are dealt with in the establishment of the initial, and the rolled forward, asset base.*

** The initial asset base may be valued in a number of ways, including through: Depreciated Replacement Cost (DRC); Depreciated Optimised Replacement Cost (DORC); Optimised Replacement Cost (ORC); Economic Valuation; Optimised Deprival Value (ODV); Depreciated Actual Cost (DAC); or using another recognized asset valuation method.*

10. It is common practice for some jurisdictions to draw a ‘line in the sand’ to differentiate between past (legacy) investment decisions and new investment decisions. Where a line in the sand is drawn, an opening RAB value is set (which essentially locks in the past rate of return on previous investments). The RAB is then updated (or rolled forward) each year to reflect prudent capital additions, disposals and depreciation.

.....

14. Where jurisdictions have drawn a ‘line in the sand’, this Principle [of full cost recovery] would apply only to new investment decisions made after the date the line in the sand was drawn (the legacy date). For investment decisions made prior to the legacy date, see paragraphs 17 and 18 below.

17. Legacy assets that are to be retained should be valued at DRC, DORC, ORC, indexed actual cost, ODV or using another recognized valuation method. [Legacy assets are those which existed at the legacy date 30 June 2006].

18. In respect of legacy investment decisions (ie made prior to 30 June 2006), charges will achieve cost recovery by way of a depreciation charge or annuity charge and a positive return on an asset value used for price setting purposes as at the legacy date.*

** The return earned should be no less than the return being achieved at the legacy date and, if the return being earned before the legacy date is above the current WACC return, no more than the return being achieved at the legacy date.”*

It would seem that, if we are to review the reasonableness of the Treasurer’s valuation of the Initial RAB for water services in May 2013 (at \$7.77 billion in Dec 2012 values), it will be necessary to review the process of establishing asset values from (at least) the commencement of the Transparency Statement process in 2004-05, through the legacy asset establishment in June 2006, to the Regulatory Statement process for the 2 years before 2013-14. In particular, the treatment of Country Assets as non-legacy, and the use of

a full WACC for those assets on the basis of the CSO contribution from Government, needs to be considered against the above NWI Guidelines.

It was made very clear by the Treasurer, on a number of occasions prior to finally setting the Initial RAB in May 2013, that the RAB would be set so as to deliver the projected price path set out in the 2012-13 Regulatory Statement (which in turn evolved from the 2011-12 Regulatory Statement and the earlier Transparency Statements). It is impossible to comment on the final value without understanding the valuation processes over the prior decade.

In essence, it would appear there are effectively three ‘line in the sand’ decisions associated with the SA Water Initial RAB: the first in the 2005-06 Transparency Statement where a new 1 July 2004 asset value was chosen; a second associated with the modification in the 2008-09 TS when the legacy assets were first declared and used to establish prices; and the third in May 2013 when the Initial RAB for independent price regulation by ESCOSA was established as a direction by the Treasurer in the second Pricing Order (and locked in for subsequent pricing determinations or at least until altered by a new Pricing Order).

The process in May 2013 appeared to cause some concern at ESCOSA because of the Treasurer’s decision to not set the RAB until after the Draft Determination had been completed; this was seen as effectively removing the regulator from the final outcome. The decision was justified by the Treasurer as the only way to ensure the Government’s commitment that there would be no price shock (upwards or downwards) arising from the introduction of independent price regulation. However, given the changes in world finance markets at the time were driving interest rates and WACC downwards, the only “shock” would have been a price reduction to consumers; so the decision could be seen as primarily one of maximizing the value of the RAB and securing the highest return for Government.

The fairness of this decision, in terms of balance between the interests of consumers and the Government, is clearly one for consideration.

The ‘line in the sand’ approach, if applied so as to avoid price shocks upwards or downwards, has the effect of preserving past prices and returns, and might have the effect of locking in past monopoly prices. This may be of particular interest given the significant price rises that occurred over the period, even if they were justified on the basis of the significant increases in expenditures from water security investments.

On the basis of the previous discussion in this Essay, the areas of interest to the Inquiry ought therefore be (at least) as follows:

- Were the valuation decisions over the period from 2004-5 to 2012-13 in accordance with NWI Pricing Principles (including consideration of monopoly pricing) and Australian accounting standards?
- Were the escalation factors used to inflate annual RABs appropriate, and did they have any impact on the ultimate value of the Initial RAB?
- What was the impact of the three “line in the sand” decisions on asset values, and were they fair and reasonable?

- Was the treatment of country legacy assets (alongside the CSO impact on assumed earning return of a maximum WACC) correct?
- Were the price forecasts in the 2012-13 Regulatory Statement (for the period 2013/4 onwards) an appropriate basis for the commitment to provide price consistency or were they inflated?
- Does the value of the Initial RAB at \$7.77 billion stand up to scrutiny having regard to the value in other jurisdictions, the statutory accounting value, and the nature of the water assets in South Australia (given poor water quality, limited natural supply, and the potential diseconomies of scale)?

Additional Information

The previous sections have focused on the decisions of Government from the early 2000s through to 2014 in setting allowable water revenue and prices for SA Water. They have raised some questions about these decisions which need to be addressed in future work of the Inquiry.

The Inquiry will attempt to address the question of whether the Government has (through the use of its legislative and administrative powers) secured monopoly rents from the water business that it owns. It has of course, in addition to the revenue it receives each year from SA Water's payments of company tax equivalent, dividends and debt guarantee fees, converted over \$2 billion of equity into debt in the past few years securing a large financial return to the State, increasing the debt to equity ratio quite significantly (but still below regulatory and standard commercial practice) and impacting SA Water's credit metrics.

Some will observe that all revenue contributed by SA Water to the Government is used for the benefit of the citizens of South Australia, and if the revenue from water (and wastewater) businesses was not received, the Government would need to raise the money through other taxes or charges. While that may be true, there are economic reasons why charges for services such as water are more efficient if they properly reflect the true cost of supply and are not the result of an abuse of monopoly power.

Determining the "correct" RAB for the water assets of SA Water is an impossible task: there is no such right answer, or no agreed process to determine it with any degree of confidence when it has evolved over time. If the Inquiry is able to shed some light on the process of setting the RAB, it might be able to give some guidance as to whether it was fair to the interests of consumers, and to leave it to the Government to decide if it wishes to adjust the RAB for the next ESCOSA Determination to better reflect a fair balance between its interests and those of consumers (and the alternative avenues it has to raise the necessary revenue for the broad operation of government across the State).

In undertaking this work, the Inquiry believes it is desirable to complement the approach outlined above with some additional research, focused on benchmarking the South Australian experience with that in other jurisdictions across Australia. However, the differences are extreme, especially in the eastern States of Victoria, NSW and Queensland, where the industry structures are significantly different from in SA (with multiple water

utilities of differing sizes and functions). In addition, the nature of their water resources, the quality of their raw water, the customer densities and areas covered, and the different approaches to regulation, make direct comparisons of their approach to water pricing almost impossible and certainly extremely qualified. Not much might be achieved by putting considerable resources to this task.

Therefore, given the extreme difficulty with this approach and the high probability the information will be of uncertain value, the Inquiry is of the view that it should undertake a very targeted approach to benchmarking and proposes to concentrate its work on a direct examination of the experience in Western Australia, given the broadly similar elements of this experience within South Australia.

There are three government-owned water businesses in WA who are regulated by the Economic Regulation Authority (ERA). By far the biggest is the Water Corporation of WA, with responsibilities similar to SA Water in it being a government-owned water and wastewater business (it also has storm-water and recycled water responsibilities) with a Statewide responsibility, excluding two areas covered by smaller utilities called Busselton Water and Aquest. The Inquiry will therefore focus on Water Corporation (WCWA).

The economic regulation of water in WA has been undertaken by ERA since 2004 and has been comprehensively reported.

The ERA's initial inquiries for metropolitan and country businesses were published in 2005 and 2006 and included a comprehensive independent asset valuation for the water businesses as at 30 June 2005, using the deprival method. The first inquiry was published in November 2005, and recommended tariffs for the 9 year period 2006-07 to 2014-15.

The second inquiry was published in September 2009, updating the earlier recommendations and recommending tariffs for the 3 year period from 2009-10 to 2011-12. Prices for 2012-13 were developed without an inquiry by escalating the 2011-12 numbers.

The third inquiry was published in March 2013, and recommended tariffs for the 3 year period from 2013-14 to 2015-16.

The most recent inquiry was published in November 2017 and recommended prices for the 5 year period from 2018-19 to 2022-23. A link to the Final Report of this Inquiry has been provided on page 23 of this Exploratory Essay (being the last reference on the list); Appendix 10 from page 378 sets out a convenient summary of the ERA approach to establishing asset values in WA.

Accordingly, there is a wealth of information to allow a comparison of the water pricing decisions of SA and WA over the period from 2004. Interestingly, WA also experienced a significant decline in water availability over this period and took actions to address water security by building desalination plants and taking other initiatives similar to the Water for Good Program in SA. Although the WCWA is a larger business than SA Water, it is of a scale not too dis-similar and with similar challenges of distance, population and water supply and quality limitations.

The main area of interest to the Inquiry will be to attempt to examine the different approaches to pricing by the ERA (as an independent pricing regulator) and the SA Government (acting as both Owner and price-setter). This comparison will hopefully shed some light on the question of whether, in applying the NWI Pricing Principles, similar consideration was given by the ERA and SA Government to the interests of consumers in ensuring the avoidance of monopoly pricing.

The comparison might also allow a view to be developed as to the “reasonableness” of the RAB value that applies to SA Water’s water assets, compared to the value for WCWA’s water assets, having regard to the scale and type of operations.

By concentrating its limited resources on the WA experience, and given (in its view) the particular relevance of the WA situation to what was happening in a similar timeframe in SA, the Inquiry believes this detailed consideration of one jurisdiction will provide far more useful information for its investigations than attempting to do a broad-brushed review of multiple water businesses in other States and overseas.

The Inquiry welcomes comments on this proposed limited approach to benchmarking, and any suggestions about how best this might be undertaken to maximise the value of its observations and findings.

A FINAL WORD

This Essay is designed to start a conversation: it is not definitive, it is exploring publicly available information to try and gain a better understanding of the issues and decisions behind the growth in the RAB for the SA Water water business up to 2014, which impacted so severely on water prices in SA (and which therefore continue to this day).

Where possible, the Inquiry will be conducted in close consultation with interested parties in both one-on-one conversations and in group meetings.

Because of the nature of the Inquiry, where we are attempting to explore what happened and how the decisions were reached, it is not considered useful to be approaching people for their opinions or hopes – we are looking for information and answers! We believe most people would hope for a reduction in prices, some for a substantial reduction given their belief the RAB has been significantly over-valued. But we cannot confirm any of that at this time: we need to try and find out how the decisions were taken, whether they were legal and in compliance with the NWI Pricing Principles and Accounting Standards and Treasurer Instructions, and whether they were fair and reasonable and avoided the abuse of monopoly powers.

It is believed that discussion with key people involved in these decisions will throw light on the issues, and others less involved may be able to contribute other insights through work they have done on the matters under investigation.

We welcome assistance from people and organizations who can guide us towards a better understanding of the issues covered by the Terms of Reference.

Please contact us to arrange a discussion on the matters raised in this Exploratory Essay.

Lewis Owens, Independent Inquirer

Ann Pataki, Executive Officer