31 May 2019

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Working for your business.
Working for South Australia

Mr Lewis W Owens
Independent Inquirer
State Water Price Inquiry
GPO Box 1045
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Dear Mr Owens

Business SA has valued the opportunity to input into your long-awaited independent inquiry into the value of SA Water's assets, their regulated asset base (RAB). We have long argued for an inquiry into the Government determined RAB value which impacts approximately two-thirds of SA Water's regulated revenues, and by association, water prices. The price of water in this state continues to impact upon the competitiveness of local business, particularly export orientated water intensive food & beverage manufacturers and agri-businesses; highlighted through numerous examples in our first submission.

In response to your final draft report, 'A Balanced Bargain', we have again engaged leading regulatory economist Mr Eric Groom from Cambridge Economic Policy Associates Pty Ltd (CEPA) to consider your preliminary conclusions. We acknowledge CEO Grant support from the Essential Services Commission of South Australia (ESCOSA) to facilitate this analysis. CEPA's report can be found at **Attachment A**.

We recognise you are entering the final stage of deliberations before settling on a final decision by 30 June 2019. Accordingly, we have streamlined our feedback to focus on key topics we request to be further addressed;

- The exclusion of waste-water assets from your conclusions;
- The validity of establishing a new legacy value for the RAB in 2013;
- The role of economic valuation in determining a RAB with a 2006 legacy date;
- The validity of adopting the economic valuation (EV) approach in 2013 after the Government previously used the depreciated optimised replacement cost (DORC) approach; and
- The approach used to estimate the value of contributed assets to SA Water.

We have appreciated your open and engaging approach throughout the inquiry, including that of your Executive Officer, Ms Ann Pataki. This has enabled interested parties to have adequate opportunity to have their voices heard, and in a manner which respects the diversity of opinion on the subject matter. The enormity of this task and its potential impact have warranted nothing less than a full and frank debate on the merits of past processes for valuing SA Water's assets. We feel this has been enabled by the Inquiry's carefully structured approach to reaching its final determination.

The Inquiry is a once in a generation opportunity for all SA Water consumers, including businesses, to finally have clarity on what an independent assessment of SA Water's RAB shows. We recognise this is a complex task, and one that is unlikely to be revisited. Depending on the outcome, an implementation decision might also be difficult for the State Government. Notwithstanding, we reiterate that businesses and residents have long lived with the difficulties associated with significant water price rises, which tripled in less than a decade leading up to 2013. This was, in part, on the back of RAB re-valuations with legacy impacts continuing to the present day. We ask that you carefully consider the plight of consumers, the bill payers, as you undertake your final deliberations.

Should you require further information, please contact Andrew McKenna, Senior Policy Adviser, on (08) 8300 0009 or andrewm@business-sa.com.

Yours sincerely,

Anthony Penney

Executive Director, Industry and Government Engagement

Attachment A

Valuation of SA Water Assets: Response to "A Balanced Bargain"

Prepared for Business SA

IMPORTANT NOTICE

This report was prepared by Cambridge Economic Policy Associates Pty Ltd (CEPA) for the exclusive use of the client(s) named herein.

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1. EXECUTIVE SUMMARY

This report has been prepared for Business SA in response to the Inquiry's Report ***A Balanced Bargain*** which sets out the Inquiry's view on the range for a reasonable RAB for SA Water. ***A Balanced Bargain*** follows on the earlier reports by the inquiry that set out the issues ("An Exploratory Essay"), provided a statement of its assessment of the issues and proposed approach ("Diving Deeper"), and presented its initial conclusions ("A Cautious Conclusion"). CEPA previously prepared a report for Business SA in response to ***Diving Deeper*** that provided a detailed assessment of the issues raised by the Inquiry and set out estimates of the RAB using various approaches and assumptions. This report draws upon, but does not repeat, the analysis in that report.

In marked contrast to the process for setting the RAB in the past, the Inquiry has embarked on a rigorous, transparent, balanced and collaborative process to advise the Government on a reasonable value for the RAB. ***A Balanced Bargain*** provides a comprehensive review of the approach to asset valuation adopted by the SA Government and the alternatives available. Like the previous report ***A Cautious Conclusion*** it expresses concerns about the economic valuation approach and gives little weight to valuations using this approach. Unlike ***A Cautious Conclusion***, it gives greater weight to the consideration of the revaluation of the RAB in 2013. The key issues that this raises for submitters are:

1. What weight, if any, should be given to the establishment of a new legacy value for the RAB in 2013;
2. Whether the option of revaluation upwards to the Economic Valuation was available in 2013; and
3. What weight should be given to economic valuation approaches in estimating the RAB at an earlier legacy date?

On balance CEPA considers that the National Water Initiative (NWI) does not support the adoption of 2013 as the legacy date. Consistent with the requirements of the NWI and the SA Government's earlier nomination of a 2006 legacy date, the Inquiry should establish the RAB as at 2006 and roll that RAB forward to 2013. This is also consistent with good regulatory practice in other States and nationally.

In establishing this value, the Inquiry should have regard to the Economic Value of the assets as well as the DORC values at that time (2006). This is also consistent with good regulatory practice and the deprival value methodology. Both DORC and EV methodologies have their strengths and weaknesses and it is not possible to estimate either with certainty. The DORC value is accepted as the upper-end of the range, but gives no weight to the pre-existing implicit contract with customers. The EV approach represents the lower bound (if less than DORC) and provides long-term protection for the pre-existing implicit contract with customers.

If it were accepted that a 2013 legacy date could be adopted, we agree with the Inquiry that adoption of an EV above the DORC estimate cannot be supported. It is inconsistent with the deprival value methodology and regulatory practice in other jurisdictions and sectors.

In estimating the DORC value, the Inquiry needs to adjust for the value of customer contributions. The current approach builds in a high degree of conservatism and may introduce an upward bias in the DORC estimates of up to $200m. The Inquiry is rightly concerned about the reliability of the estimates that have been provided, but the objective is to determine the best unbiased estimate on the available information, not to set a conservative estimate. The assessment of the confidence in the estimates is a matter of judgment but the inquiry has not made the case that the estimates are more likely to be over-estimates than under-estimates.

We consider that a reasonable range for the value of the water assets as at 2013 would be $6.1-$7billion. This is based on consideration of the Gov3B, Inq1, and Inq3 estimates where the DORC estimates are adjusted for the current conservative estimate of pre-corporatisation contributed assets. The EV estimate (Inq3) should be considered alongside the estimates and sensitivity testing in CEPA's earlier report. These estimates are 10-18% below the value previously determined by the SA Government. As the wastewater assets were valued on the same basis, the comments on the valuation of the water RAB also apply to the wastewater RAB. However, we have not quantified their impact.

Concerns about the budgetary position of the government should not drive the valuation of the assets. If it were to do so it would be a non-transparent tax. One of the key themes of National Competition, of which the NWI is a component, is that government-owned businesses should be placed on a commercial, competitively-neutral position. This requires that regulation provides the opportunity for government-owned businesses to earn a commercially sustainable revenue stream and that they are neither advantaged nor disadvantaged by government ownership. Hence, a key feature of best practice regulation in Australia is that it is 'blind to ownership'. The impact on government dividends may be considered by the Government in the timing of the transition but it should not drive Inquiry's advice on the RAB.

2. KEY CONCLUSIONS OF *A BALANCED BARGAIN*

The Inquiry's Report, ***A Balanced Bargain***, provides a comprehensive review of the approach to asset valuation adopted by the SA Government and the alternatives available. It examines both the approach that the Government adopted in setting the RAB for SA Water assets and the alternative approaches to determining the RAB.

The Inquiry has altered its previous view on the ability of the Government to set another RAB in 2013[1] having declared a legacy date of 30 June 2006. It now accepts that the "Government was entitled to set a new valuation at the commencement of independent economic regulation in mid-2013 and to set the asset value at a level whereby the Government would receive the expected revenue stream it had foreshadowed in the 2012-13 Regulatory Statement (RS)".[2]

The Inquiry also explored a number of other approaches to determining a reasonable RAB value. This included both a roll-forward of Depreciated Optimised Replacement Cost (DORC) asset values from 2006-07, and Economic Valuations (EV) of the RAB based on revenue in 2006 and revenue in 2013.

The Inquiry determined a range of values for a reasonable RAB at 30 June 2013, which was in the range of $7150 million to $7250 million (in $ Dec 2012). These are $520 million to $620 million below the value set by the Treasurer in May 2013 of $7770 million (in $ Dec 2012). The range specified excluded the EV based on 2006 revenues rolled forward to 2013.

The Inquiry concluded that the value of $7250 million was the highest credible value of the RAB, and is intending to recommend that the Government consider reducing the RAB by $520 million to achieve this. However, it recognised that its analysis supported a lower number of $7150 million.

3. THE INQUIRY'S TASK

[1] ***A Balanced Bargain***, p1.

[2] ***A Balanced Bargain***, p1.

The Inquiry's task, as set out in the Terms of Reference (ToR), has three parts. Firstly, it is to recommend on the 'reasonableness' of the RAB set by the SA Government in 2013. In assessing the reasonableness of the RAB value, ToR 1 requires the Inquiry to have regard to, among other matters, the process for the determination of the RAB, the requirements of the NWI, and the RABs for water assets in other jurisdictions. ToR 2 then requires the Inquiry to "consider and report on a possible implementation program" **if** a change in the RAB is proposed.

Two key points from the ToR are that:

1. The Inquiry is to assess the ***reasonableness*** of the RAB value and the process by which it was determined
2. Consideration of implementation issues is contingent upon, but should not drive the determination of the value of the RAB.

3.1. Assessment of Reasonableness

The Inquiry's reports examine in detail the 'legal' requirements under the NWI in regard to the establishment of the RAB. However, as the report points out, the assessment of reasonableness goes beyond the legality of the decision to the assessment of whether the decision is "*sensible, fair* and *moderate*"[3]. The Report elaborates on this by setting out three criteria for sound regulatory decisions: Apply the Act; Balance the Bargain; and Collaborative Climate.[4] The report explains that:

> "The so-called "bargain" is the implicit agreement between asset owners and customers for a guaranteed price in return for an agreed level of service: price regulation must balance the bargain such that customers receive a specified level of service without the abuse of monopolistic pricing. The Balanced Bargain should support the ongoing investment by the owner in maintaining or improving services, but in a way where incentives drive up efficiencies and customers share in these gains through lower prices and better service."[5]

The process by which decisions are made is at the heart of the 'collaborative climate' and is integral to the assessment of the outcomes.

> "Collaborative Climate" refers to the way in which the regulatory regime should operate, reflecting the need for transparency and shared gains. Owners of regulated assets have much greater knowledge of their assets than customers and regulators, and it is necessary, if there is to be an informed deal, for information to be shared and analysed and reported. The process is as important as the outcome, as there needs to be acceptance by customers that the deal is fair and reasonable to both parties. The practice of regulatory reviews across the country is one of extensive consultation and opportunities for customers to offer their views and analysis, in a formalized and innovative approach to sharing the knowledge and the power."[6]

A number of key points arise in the implementation of this framework for determining the reasonableness of the RAB.

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[3] ***A Balanced Bargain*****,** p15.

[4] ***A Balanced Bargain*****,** p16.

[5] ***A Balanced Bargain*****,** p16.

[6] ***A Balanced Bargain*****,** p16.

Firstly, the Inquiry has phrased the challenge of reaching a balanced position in terms of the 'bargain' between asset owners and stakeholders. One of the key questions is the extent to which in striking the bargain going forward under the NWI, the implicit pre-existing bargain (or contract) with consumers is recognised. As noted below, the NWI recognised that governments were seeking to change the framework for provision of water services from the pre-existing approach where governments, as owners of the utilities, had invested without an expectation of a commercial return and consumers had made their decisions on that basis. This issue is central to the approach to asset valuation. The economic value approach to asset valuation preserves this pre-existing contract for long term (life of the existing assets), whilst the DORC approach with a full commercial return 'wipes the slate clean' and moves immediately to full cost recovery for both existing and future assets. As noted below, the SA Government adopted the DORC approach but recognised the pre-existing commitments through a lower return on legacy assets. However, there was no guarantee for how long the lower return on legacy assets would continue.

Secondly, the 'bargain' should provide incentives for efficient investment in, and provision of, water services efficiency and a sharing of the benefits of lower costs. If the basis for the valuation of existing assets is clearly separated from the treatment of new investment, the approach to valuation of the existing assets need not affect the incentives to invest in future assets. This separation is built into the NWI, which includes strong obligations to provide a commercial return on new investment and protect the assets from revaluation other than on the basis of updated DORC estimates. At the same time the NWI provides broad discretion on the valuation of existing assets. This approach is not limited to water. It is also embedded in the rules for energy regulation and the approach to utility regulation in Australia more generally. The assurance of a commercial return on efficient new capex provides the financial capacity and incentive to invest in new assets, rather than the valuation of the existing assets.

Thirdly, assessment of the outcome cannot be fully divorced from the process by which the outcome is determined. As the Inquiry notes, there was a lack of transparency of the process and a concern that the process by which the initial RAB was set was dominated by the owner of the assets (i.e. the SA Government). This reduces the credibility of the value determined and raises concerns that it may be biased in favour of the asset owner. The lack of transparency and critical review of the original DORC estimates has made the Inquiry's task in assessing the reasonableness of those estimates difficult, if not impossible.

3.2. Consideration of Implementation and Other Issues

The Inquiry states that:

> "The Inquiry has assumed this means its task is to advise if the number is too high or too low, having regard to the information and process used to establish the number. Considerations about the consequential impact on dividends to the government, or whether the RAB should be inflated to increase the cost of water so as to manage the demand for a scarce resource, extend the Inquiry into dangerous territory."

This is an important conclusion that is consistent with best practice regulation. Underpinning National Competition Policy was the requirement to place government-owned businesses on a commercial and competitively-neutral basis. This was part of an overall framework that was widely endorsed by Governments to pursue productivity improvement and microeconomic reform for the long-term benefit of the community. For regulators it meant that they should approach their task 'blind to ownership'. A government-owned business should be given the same opportunity to earn the same return as a comparable privately-owned business. Consideration on the impact on dividends should not differ between

private and government-owned businesses notwithstanding the different economic positions of the recipients.

However, we recognise that the Inquiry is an advisor to Government and in considering its advice and implementing any recommendation the Government will need to consider the impact on Government and its budget. ToR 2 provides the opportunity for the Inquiry to provide advice on the implementation of its recommendation, but this should not colour its assessment of a reasonable RAB.

Stakeholders have also suggested that the Inquiry should consider the scarcity value of water in setting the RAB. As we note below, the structure of prices, rather than the RAB, is the primary regulatory instrument for signalling the value of water. If the Government considers that there is a higher inherent value in water it can signal this through a transparent tax rather than a higher RAB. Regulation in Australia has largely avoided using the regulation of utility services as an instrument for achieving environmental and social goals unless there is a clear Government policy and transparent direction.

3.3. STANDING IN THE SHOES OF AN INDEPENDENT DECISION-MAKER

The appropriate reference point for the Inquiry is that of an independent reviewer – or regulator – at the time of the determination of the initial RAB. This is consistent with the Inquiry's analysis of the test of reasonableness and the concerns that it has expressed that the process used to establish the RAB was not conducive to critical independent review and testing, and the balancing of the interests of all stakeholders.

Adopting the frame of reference of the independent regulator reinforces the relevance of regulatory practice in other jurisdictions to the assessment of the reasonableness of the RAB. This suggests the Inquiry could:

1. place greater weight on the economic valuation estimates of the RAB; and
2. adopt a two-stage approach to the assessment of the RAB.

As discussed below, regulators in other jurisdictions in Australia (and regulators in the UK) have given greater weight to the economic valuation of the RAB. Indeed, in most cases the RAB has been based on the economic valuation under the deprival value method which requires that the assets are valued at the lower of economic value (EV) and Depreciated Optimised Replacement Cost (DORC).

The approach of the AER in assessing opex and capex is a useful example of the two-stage approach to decision making. The AER first assesses whether the proposed opex is reasonable (i.e. efficient). If it finds that it is not inefficient, or too high, it accepts the estimate. If it finds it is not efficient its task is to determine what it believes is the best estimate of efficient levels. Inevitably the utility's estimate is an important reference point but it does not define the task in terms of how much should the utility's estimate be reduced to bring it within a reasonable range for efficient costs. To do so would introduce a bias and the National Electricity Rules were reworded to make it clear that the AER's task was to establish its own best estimate, not adjust the utility's estimate to bring it within a reasonable range.

4. BEST PRACTICE: RELEVANCE OF OTHER JURISDICTIONS

Regulators and governments in other jurisdictions have had to address the same issue as the SA Government within the NWI framework (or in the case of SA and NSW, in anticipation of it). While each state has elements that are unique, on the whole the environments for the decisions were largely the same:

1. Aging assets and concerns about funding their replacement/renewal.

2. Existing prices that did not cover the full cost (including a commercial return on assets). This reflected the past understanding that governments would fund the assets for these essential services without an expectation of a commercial return on their investment.
3. A rising appreciation of water scarcity and prospective expensive investment in new bulk water capacity (including desalination plants).
4. 'Postage stamp' pricing across the whole state or major capital cities and a price structure that did not signal the full forward-looking costs of additional supply through the usage charge.
5. A transition to full commercialisation/corporatisation and an expectation of a commercial return on investment.
6. Concerns about the potential impact of higher charges on vulnerable customers.

Many of the same issues have been raised in the Inquiry's review and it is useful to examine how regulators and governments have responded to these concerns in regulating water businesses and setting the RABs for those businesses.

CEPA's earlier report for Business SA provided a summary of the regulatory approaches and asset valuations used (see the table below).

Table 4.1: Summary of regulatory approaches

State/Territory	Approach
NSW – Sydney Water	Deprival value. The economic-based approach branch of the ODV was used (i.e., NPV of cash flows). The economic-based approach was used as it maintained the price levels and was materially lower than the DORC.[7] A line in the sand (on revaluations) appears to have been drawn in 1998/99 and a standard roll-forward (efficiency prudent capex, plus inflation, less disposals and depreciation) has been used since.
Victoria – Urban and Rural Water and Wastewater[8]	Economic-based approach proposed by ESC. The Minister determined the starting RAB values, which were based on a mixture of economic value (using either expected returns for a single year or businesses' proposed returns) or businesses' proposed prices and revenues unadjusted. A line in the sand was drawn at this point, the 2004 valuation, and a standard roll-forward has been used since.
Queensland – Gladstone Area Water	DORC valuations for1 July 2005 were used as the starting point for the RAB. QCA has treated this as a line in the sand, however it does note that it can 'optimise' (re-value) if it "*had previously been misled, there are actual bypass options available or there are issues in relation to customers' capacity to pay.*"[9] QCA rolls forward the RAB in the standard way.
Western Australia – Urban Water and Wastewater Pricing[10]	Deprival value. The DORC estimate was considered to be significantly higher than the economic value method, so the economic value method was adopted.

[7] IPART (2000), *SYDNEY WATER CORPORATION: PRICES OF WATER SUPPLY, SEWERAGE AND DRAINAGE SERVICES, Medium-term price path from 1 October 2000.*

[8] See ESC (2005a), *ADVICE TO THE MINISTER FOR WATER Regulatory asset values for the Victorian water businesses*, March, and ESC (2005b), *METROPOLITAN AND REGIONAL BUSINESSES' WATER PLANS 2005-06 to 2007-08: FINAL DECISION*, June.

[9] QCA (2010), *Gladstone Area Water Board: Investigation of Pricing Practices*, June, pages 74-76.

[10] ERA (2004), *Final Report: Inquiry on Urban and Wastewater Pricing*¸ November.

State/Territory	Approach
	A line in the sand was made based on the 2004 values and a standard roll-forward is used (the regulatory asset value is updated by adjusting for efficient new capex, depreciation, asset disposals and inflation).
Tasmania – Water and sewerage	The regulated companies independently audited DORC values as of 1 July 2009 were rolled forward in the standard way to set the RAB for the first price determination (1 July 2012 to 30 June 2015). The regulator (Office of the Tasmanian Economic Regulator (OTTER)) noted that in a standard price control determination OTTER "*would source independent analyses of asset values and capital expenditure. Due to time constraints, for the purpose of the current Price Determination investigation, the Economic Regulator will use the asset data provided by the regulated entities to determine each regulated entity's RAB.*"[11] It appears that OTTER has continued to roll forward the 2009 DORC valuations using the standard roll-forward approach.[12]
ACT – Actew[13]	Deprival value. After estimating the DORC and economic value for the water assets in 1998, the Commission determined the economic value as being the lower of the two and set Actew's opening RAB on this basis. A line in the sand was made on the opening RAB, and a standard roll-forward approach has been applied since (the Commission declined requests from Actew to revalue assets).

Source: CEPA analysis of regulatory reports

The most common approach to asset valuation was to use the EV where it was lower than the DORC value to reduce the immediate impacts on prices and avoid overturning the pre-existing implicit contract with customers. New investment was assured of a commercial return, subject to efficiency reviews. This provided the capacity to fund new investment. While some (IPART, ESC), but not all, considered the impact of the decisions on the financeability of the businesses, the relatively low gearing of the water utilities in practice meant that financeability issues were not raised by setting the RAB below the DORC value.

The prime means of signalling the scarcity value to consumers is through the usage charge. Some regulators explicitly based the usage charge on estimates of the long-term marginal cost. Under this approach usage charges rose with increasing scarcity of water and the investments in desalination plants. Fixed charges have remained positive, notwithstanding this, and RABs were not increased to increase prices and to reflect the scarcity value of water.

Drawing upon this body of precedent and regulatory practice the Inquiry:

1. Could place greater weight on the EV where it is lower than the DORC.
2. Should not link the asset value for the water business to the social or scarcity value of water.
3. Should link the incentives to invest to the treatment of new investment rather than the valuation of sunk assets, so long as that value is locked in and future assets are not subject to a similar risk.

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[11] OTTER (2012), *2012 PRICE DETERMINATION INVESTIGATION – REGULATED WATER AND SEWERAGE SERVICES IN TASMANIA FINAL REPORT*, May, page 51.

[12] OTTER's wording in its 2015 Determination is slightly unclear: "*The opening $RAB_{EXISTING}$ and RAB_{NEW} are DORC asset values as at 1 July 2015 which have been rolled forward from 1 July 2009.*" However, the formula provided indicates that it is a standard roll forward approach. OTTER (2015), *2015 PRICE DETERMINATION INVESTIGATION – REGULATED WATER AND SEWERAGE SERVICES IN TASMANIA FINAL REPORT*, April, page 31.

[13] Independent Pricing and Regulatory Commission (IPARC, 1999), *Actew's Electricity, Water & Sewerage Charges for 1999/2000 to 2003/2004*: Price Direction, May.

5. ADDRESSING CONCERNS IN REGARD TO ECONOMIC VALUATION

The DORC value is almost certainly the maximum value for the RAB consistent with the principles of economic efficiency and NWI (where other approaches exclude non-commercial investments). Alternatives – such as economic/financial valuations based on current and/or forecast cash flows – can provide an opening RAB that is more consistent with the prior implicit contract between customers and the government as the owner of the assets. Such estimates better balance the interest of the consumers and the owner of the assets. These approaches recognise that the policy framework – or contract with customers – changed with NCP and the NWI so that there was an expectation that the full costs of future investments ***including a commercial rate of return*** would be recovered through water prices. But this was not part of the previous policy framework – or implicit contract. The NWI recognised that it was not a necessary requirement for economic efficiency that the contract be changed retrospectively to recover the full cost of sunk (pre-existing) assets.

The Inquiry has recognised that all valuation approaches are estimates, subject to uncertainties and strengths and weaknesses, but it has placed greater weight on the DORC estimates than the EV estimates. A key factor in this appears to be a concern about the variability in the estimates that can flow from differences in the assumptions used.

The modelling by CEPA in its previous report for Business SA illustrated the assumptions required and the impact of these on the estimates. The variability in the estimates was acknowledged, verified and tested. That is one of the strengths of the EV approach: it is more transparent and the assumptions more easily tested and contested than the DORC approach, especially as implemented in RS/TS.

EV models are widely used discounted cash flow models that are based on the fundamental proposition of finance economics: the value of an asset depends on the future cash flows it generates and the risk-adjusted discount rate. The key assumptions in applying it to regulated businesses are the assumptions on expected cash flows, the period to be considered and the discount rate to be used.

The existence of a wide body of evidence from the decisions of regulators substantially narrows the potential range for the discount factor (WACC) and provides an objective basis for the assumptions.

If the frame of reference is to value the existing assets on the basis of the current implicit contract with customers, the estimation of cash flows is simplified and made more transparent. The relevant cash flows are the existing cash flows. Alternative approaches to estimation of cash flows – such as the differences between the Inquiry's approach and the CEPA report for Business SA – are possible but can generally be reconciled. The use of existing prices based on the objective of valuing the current contract removes the 'circularity' of having forecast future prices to estimate the asset value. The question being posed is: how much would the existing assets be worth if the 'existing deal' continued unchanged. It also avoids the need to forecast future costs and future capex requirements.

CEPA's previous report for Business SA identified the range of asset values based on a wide spread of assumptions on the period over which the revenues were discounted. CEPA's central estimates for the RAB value in 2013 (before deduction of the 2nd stage of the ADP) of $6.77-$6.47 billion are around midway between the Commission's EV and DORC estimates for 2006 rolled forward to 2013.

Due to the lack of disclosure of the original basis for the DORC values used by the SA Government, the DORC estimates were not tested at the time and are impossible to test now. The Inquiry has

acknowledged that DORC estimates are dependent on assumptions and professional judgement[14] but it is now impossible to assess the potential range for the DORC estimates and whether the estimates used were a reasonable mid-point estimate. Hence, the EV estimates are more transparent and subject to critical review and testing that the DORC estimates. The range can be identified and whether a proposed value is consistent with the best unbiased estimate can be examined. This was not done for the DORC values used by the SA Government at the time and cannot be done now.

6. DIFFERENCE BETWEEN ECONOMIC VALUATION AND THE DORC APPROACH ADOPTED IN SA

As noted above, other jurisdictions adopted the economic valuation (EV) approach in establishing the initial RAB. In SA the Government set the RAB based on DORC estimates. Initially, revenues were calculated using a lower overall return but the 2008/9 TS distinguished between legacy and non-legacy assets and set a lower return on legacy assets. The 2008/9 statement also nominated 2006 as the legacy date. This section compares the EV approach in other states in setting the initial RAB with the approach adopted in the 2008/9 TS.

While the initial outcomes under two approaches can be the same at the time of the initial decision, there are significant differences in the outcomes over time. The SA approach provides a less certain and more temporary protection of the initial contract with the customers and, as implemented in SA, has led to higher prices over time. It is also more complex to implement. Compared to the EV approach it requires a separation of assets into legacy and non-legacy assets, depending on whether the services provide a commercial return or not. In SA this required the assessment of whether the CSOs are sufficient to cover the full costs (including a commercial return) for the services provided. As a result, country assets were classified as non-legacy assets.

6.1. Protection of Implicit Contract with Existing Customers

In Australia water services have historically been provided by government departments/businesses. Pre-corporatisation investments were made without an expectation by governments or consumers that prices would provide a commercial return on the investments. This ‘implicit contract’ was changed under the NWI. Under the new ‘contract’ with customers there was a clear expectation that prices should provide a commercial return on new investments. However, the NCP and NWI provided flexibility in managing the transition for pre-existing assets. The question that goes to the heart of the establishment of the initial RAB is to what extent should the prior implicit contract be respected through a lower initial RAB or lower return on pre-existing assets?

As the ACCC/AER argued as “*long-term under-recovery of costs [relative to DORC values] might be justified if … there is an implicit or explicit agreement that any common costs will be shared in a particular way*.”[15]

The EV approach values the assets on the basis of pre-existing prices/revenues, effectively preserving the pre-existing implicit contracts for the life of the assets. The percentage return on these pre-existing assets will vary over time with changes in the cost of equity and debt, but the value of the assets does not.

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[14] CEPA, *Valuation of Water Assets: A Report for Business SA*, p32-33, provides illustrations of the uncertainties surround DORC asset valuations.

[15] ACCC/AER (2012), *The allocation of costs between government and users in the regulation of wholesale water service providers in New South Wales*, Working paper no. 7, September, page 10.

The SA approach reflects the implicit contract with the existing customers at the time of the initial decision but not over the longer term. The assets are initially valued on the basis of DORC but a lower return, based on actual returns at that time is provided for legacy assets, so that initially prices may be the same as under the EV approach. But the Government indicated that this may not be preserved. Over time, as revenues were increased, the return on the existing assets increased relative to commercial returns while returns on non-legacy assets were pegged at 6%. By 2013 the proposed revenue stream provided a commercial return on the total (legacy + non-legacy) DORC value – as is demonstrated by the fact that the Inquiry's estimate of the economic value of the assets based on that revenue stream exceeded the DORC value.

The SA Government stated that:

> "SA accepts the necessity for consistent approaches to pricing by setting revenues to align with principles for the recovery of capital expenditure adopted in other jurisdictions. Such alignment can be achieved even though SA Water's RAB is based on fair value (depreciated replacement cost)."[16]

However, this alignment only applied at the time of the initial establishment of the RAB and only for so long as the lower return on legacy assets meant that the overall return on the DORC RAB was below a commercial return.

6.2. Complexity of Implementation

The SA approach increases the complexity of determining the initial RAB and revenue requirements. It requires a distinction between legacy assets and non-legacy assets depending on whether the assets are earning a commercial return at the time of establishment of the RAB. In SA this required an assessment that the CSOs were sufficient to provide a commercial return at the time and a presumption that the CSOs would be adjusted to maintain this commercial return. As the Inquiry notes, the subsequent reduction in CSOs raised questions as to whether this was the case, although the Inquiry has accepted that the CSOs were sufficient.

Another question that arises under the SA approach is whether the return on legacy assets should be fixed in absolute terms or relative to the commercial rate of returns. If the objective is to maintain the original position in real terms, the latter (fixed relative to the commercial returns) is more easily supported, but it is more complex to implement. If both the returns on non-legacy assets and legacy assets are fixed in absolute terms while the commercial returns fall (as appears to have occurred in 2013) the burden on the owner of the legacy assets is reduced through an economic rent on non-legacy assets.

6.3. Future Prices and Revenues

This is the mirror of the discussion above on the protection of the implicit contract with existing customers. The SA approach provided scope for the Government to increase prices and returns over time relative to the EV approach.

7. OPTIONS FOR REVALUATION OF ASSETS AT 2013

In 2013 the Government established a new RAB of $7.7bn which was higher than the updated DORC and appeared to reflect an EV that was higher than the DORC value and was based on the price path that did

[16] Cited in **A Balanced Bargain**, p27.

not reflect the decline in interest rates and the WACC that was occurring at the time. As the Inquiry concludes:

> "However, it also meant that consumers did not receive much (if any) of the benefit that a falling WACC would normally deliver to consumers, and the benefit was predominantly captured by the government and locked in for future years."[17]

This raises two questions:

1. Was the option to set a new RAB in 2013 available to the Government?
2. If so, could the Government set a RAB above the DORC value based on the EV?

The Inquiry has concluded that the option to revalue was available to the Government, although it is less clear whether this is consistent with the NWI. It has further concluded that it was not reasonable to set a value above the DORC value. The view in **A Balanced Bargain** that the Government could set a new RAB differs from **Diving Deeper**, where the Inquiry concluded:

> "The other interpretation, which I support, is that it was not appropriate to be using the LITS approach to set the Initial RAB in May 2013 at a time of significant price increases and where forward estimates were unreliable and easily gamed. I believe the preferred approach would have been to set an Initial RAB at a time of relative price stability, and to roll forward that value in accord with best regulatory practice."[18]

The Inquiry's assessment of the task under "Applying the Act" supports a requirement that the approach to the RAB should comply with the NWI, notwithstanding that the NWI are not legally binding. From this perspective, the conclusion expressed in **Diving Deeper** is better supported by the requirements of the NWI and practice in other jurisdictions in implementing the NWI:

1. The NWI principles do not link the establishment of the initial RAB to the establishment of independent regulation.
2. The NWI principles state that the legacy date should be no later than January 2007.
3. Given that the Government has set a RAB based on DORC values prior to 2007, it was open to the Government to revalue the RAB based on up-dated DORC values in 2013 or any subsequent years, but not to change to another approach in revaluing the RAB.[19]

If it were accepted that the Government had not established an initial value for the legacy assets prior to 2007, the application of the deprival valuation principles meant that the Government could not set a RAB above DORC values in 2013.

7.1. IS THE LEGACY DATE LINKED TO INDEPENDENT REGULATION?

The Inquiry has linked the establishment of the RAB at the legacy date to the establishment of **independent** regulation.

> "Associate Professor Abbott's advice, the theoretical structure underpinning the application of the LITS valuation methodology supports its use at either the time of corporatization (from when

[17] **A Balanced Bargain**, p44.

[18] **Diving Deeper,** p12.

[19] Although it should be noted that application of accounting principles would require a write-down of the asset values for reporting purposes should the income stream not support the book value under the RAT (Recoverable Amount Test).

> "commercial" rather than "political" decisions would be made regarding the operation of the business), or at the commencement of independent economic regulation." p48.

Asset valuation consistent with accounting principles is an essential element of corporatisation. However, given there is scope for revaluations under those accounting principles, this does not necessarily lock in an asset value. Best practice in establishing independent regulation also establishes clear principles for asset valuation. Revaluations up or down, or changes in asset valuation methodologies, are not necessarily precluded, but regulatory regimes in Australia have moved to lock in the original RAB (except for indexation for general inflation). Even where independent regulation is established the RAB may not be determined at that point or by the regulator. For example, in Victoria the Minister determined the RABs for the electricity and water businesses, and in NSW independent regulation commenced in 1992 but RABs were not locked in until 1998/99. Importantly though, there are many forms of control or regulation of prices other than independent regulation, further complicating the linkage of the establishment of an initial RAB to independent regulation.

The key point is that in practice the establishment of the initial RAB can be triggered by corporatisation, the establishment of a regulatory framework (whether independent or not), or other events. In the case of the Australian water sector a key 'other event' is the NWI which specified that the legacy date should be not later than 1 January 2007. Subject to this fixed end-date, the decision on the date by which the value of the legacy asset is set, and by implication the value of the legacy assets, was left to governments or economic regulators.

In summary, NWI do not link the legacy date for the establishment of the initial RAB to either corporatisation or **independent** regulation. Hence, the establishment of independent regulation in 2013 is not a trigger for setting the legacy date or revising an existing legacy date.

7.2. Specification of the Legacy Date in the NWI

Clause 17 (principle 3) sets out the methodologies that can be used in setting the initial RAB – or Line in the Sand (LITS) – and Note 3 to the clause states:

> "The legacy date equates to the date where a LITS has been drawn. Where jurisdictions have not drawn a LITS, the legacy date will be no later than 1 January 2007 and may be in accordance with earlier dates as determined by governments or economic regulators."

This is reinforced by Note 3 to Clause 18:

> "The legacy date will be no later than 1 January 2007 and may be in accordance with earlier dates determined by governments or economic regulators. Once set, the legacy date should not change."

As the Inquiry's report states, the SA government determined a legacy value consistent with these requirements in 2006:

> "The legacy date was determined by the SA Government as being 30 June 2006 (as stated in the 2008-09 TS page 32). It could be argued that for NWI purposes, it would be assumed (or even deemed) that the government drew a LITS when it established the legacy date.
>
> Although it took the unusual approach of setting two different rates of return rather than changing the asset value as other jurisdictions had done, the impact and intent is consistent with the NWI Pricing Principles. The legacy asset values were preserved at the DORC levels that had been established by SA Water valuation processes in the period up to (and including) the 2005-06 TS."

Hence it seems clear that:

1. The NWI required the legacy date to be prior to 1 January 2007.
2. The SA Government specified a legacy date (30 June 2006) and associated value consistent with this requirement.
3. Under the NWI the legacy date cannot be changed once set.

7.3. OPTIONS FOR REVALUATION IN 2013

As outlined above the provisions of the NWI do not provide for the setting of a legacy date after 2007 or changing the legacy date after it has been set. However, it is noted that at least one jurisdiction established a legacy date and initial RAB after 2007 (Tasmania, 2009) and this may be seen as a precedent for establishing a legacy date after 2007 if one has not already been set.

Hence, two further questions need to be considered:

1. Could the SA Government have, under the NWI, revalued the RAB after the legacy date in 2006? If so, on what basis?
2. Could the SA Government have, under the NWI, set a RAB based on EV that was above the DORC value.

Principle 5 sets out the basis for rolling forward the RAB under the NWI (see below). Where the initial RAB is based on a DORC value it can be revalued based on an up-dated DORC value that has been subject to independent appraisal. As the SA Government had set the initial value of the legacy assets on the basis of a DORC estimate, it was entitled under the NWI to revalue the assets based on a revised DORC estimate, provided it was subject to independent appraisal. The meaning of independent appraisal is not clear but it is questionable whether the Regulatory Statement/Transparency Statement process met this test.

Principle 5: Rolling forward asset values after the legacy date

19. The RAB comprising prudent new investments and legacy investments should be rolled forward each year in accordance with the following formula, which can be expressed in nominal or real terms:

    RAB t = (RABt-1 + Prudent Capital Expenditure t – Depreciation t – Disposal t (discarded assets)).

    (Where t = the year under consideration).

20. Where assets are optimised, they should not be subject to further optimisation unless there are relevant changes in market circumstances.

21. Where DRC or DORC is used as a basis for asset values, the RAB comprising new investments and legacy investments should be re-valued through an independent appraisal on a rolling basis in accordance with Accounting Policy Standards.

22. Where a renewals annuity is used, asset values should not be depreciated.

Importantly if it is accepted that the legacy date is 2006 or 2007[20] and the Inquiry is to review the RAB consistent with the NWI, the Inquiry needs to stand in the shoes of the decision-maker to determine a reasonable value as at the legacy date. If that value is not based on the DORC value, then clause 21 under Principle 5 would not apply and the roll-forward of the RAB would be governed by clause 19; i.e. indexation but no revaluation.

In **A Balanced Bargain** the Inquiry argued that the Government could set a legacy date of 2013. If so, the question arises as to whether it could determine the RAB based on an EV that was above the DORC. The NWI permit a range of asset values to be used in setting the legacy value:

> "17. Legacy assets[i] that are to be retained should be valued at Depreciated Replacement Cost (DRC); Depreciated Optimised Replacement Cost (DORC); Optimised Replacement Cost (ORC), indexed actual cost, Optimised Deprival Value (ODV)[ii] or using another recognised valuation method."

EV is not mentioned specifically but it is an integral part of deprival value, which is defined in the NWI as:

> "the value of future economic benefits that would be foregone if the entity is deprived of an asset. If the asset to be lost is to be replaced, it can be valued at its market value, replacement cost or reproduction cost, depending on the circumstances. If the asset is not to be replaced, then it should be valued at its economic value, which is the greater of either the net present value of the income expected to be earned from the asset, or the fair market value. The optimised deprival value is the lesser of the DORC and the economic value of the asset."

The expert group on water pricing recommended the use of deprival value, which was also supported by the COAG Water Pricing Principles appended to the NWI.[21] The use of deprival value is also consistent with regulatory practice in other jurisdictions such as NSW, Victoria, WA, and the ACT where the EV was used where this was lower than the DORC estimate.

> "The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method."[22]

Hence, while the adoption of an EV above the DORC value is not explicitly excluded it would be inconsistent with the adoption of deprival value, good regulatory practice and the accounting doctrine of conservatism.

This supports the Inquiry's conclusion that:

> "If the government was truly setting an initial RAB value in 2013 for the commencement of independent price regulation, then under the CoAG guidelines it should choose the Deprival Value, which is the lesser of the Economic Value and the DORC. In this case, and given that the EV would at that time have been higher than the DORC, the value of the RAB should be the DORC asset value in the 2012-13 RS and not the economic value based on achieving the targeted revenues."[23]

8. ROLL-FORWARD OF THE RAB

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[20] I.e. the date the SA Government nominated or the last date available under the NWI.

[21] "The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method." COAG Water Pricing Principles, Appendix A to NWI.

[22] COAG Water Pricing Principles, Appendix A to NWI.

[23] **A Balanced Bargain**, p50.

Starting from the presumption that the value of the RAB is to be maintained in real terms the two questions in rolling forward the RAB are:

1. The measure of inflation to be used in escalating the RAB.
2. The capex to be included in the RAB.

8.1. The escalation factor used

The TS/RS used forecasts of inflation in escalating the RAB with no apparent reconciliation to actual inflation. Furthermore, the basis of the forecast (i.e. whether it was a forecast of increases in consumer prices, producer prices, or another set of prices) was not clear.

The choice of escalation factor should be driven by a view of the concept of capital to be maintained – is it financial capital maintenance or operating capacity maintenance. The dominant regulatory model in Australia is financial capital maintenance which maintains the real value of an investment. In this case a general measure of inflation, such as the CPI, should be used. Furthermore, as the objective is to preserve the real asset base over time actual inflation should be used rather than forecast inflation.

Hence, the Inquiry's preferred approach (actual CPI) is consistent with regulatory principles and practice and is supported.

8.2. Capex

Key twin principles of regulation are that consumers should not pay for inefficient costs and that utilities should be given incentives to not spend more than is efficient. This has led regulators to establish rigorous processes to review the efficiency of the capex proposed (an ex ante test) and, in most cases, the efficiency of capex spent (ex post test). While in some cases there may be small/negligible reductions in the proposed capex from the ex ante efficiency review, reductions of 20% or more are not uncommon in regulation in Australia.

The Capex included in the RS/TS was not transparent and in some cases appeared anomalous (e.g. differences in the capex included for the same year in different RS/TS). Hence, the Inquiry decided to use, for its preferred roll-forward valuation approach, the capital expenditure numbers provided by SA Water to ESCOSA as part of the database for the 2013 Regulatory Determination: these numbers covered the period from 2004 to 2013 (the last year being a forecast, the others being audited actual figures).

Unfortunately, while this is a more consistent and transparent series, it has not been subject to the efficiency testing in other regulatory regimes. Nor have the incentives on SA Water to ensure investment is efficient been strong. This can give rise to a concern that the capex allowed in the RAB may include some inefficient spending. The debate as to the efficiency of the second stage of the Adelaide Desalination Plant provides an example of these concerns. But it is not possible to determine the extent of any more general inefficiency in the capex program and hence the upward bias, if any, in the RAB.

9. CONTRIBUTED ASSETS

The NWI Pricing Principles require the exclusion of contributed assets from the RAB. The reasoning behind this is well-accepted:

- Customers, not the water business, paid for the contributed assets.

- If the contributed assets are included in the RAB the customers pay for the assets twice – once when the assets were originally built and then again over time through the return of and on the same assets when they are included in the RAB.[24]

The estimates of the RAB in ***A Cautious Conclusion*** excluded post-corporatisation contributed assets but not pre-corporatisation contributed assets. However, the RAB estimates in ***A Balanced Bargain*** have been adjusted to exclude pre-corporatisation contributed assets, consistent with the requirements of the NWI. In estimating the value of contributed assets the Inquiry has discounted the estimates provided by SA Water due to the uncertainty in the estimates.

- SA Water estimated pre-1987/88 contributed assets to be $328m. This was assessed to have '30% confidence' and the value was reduced to $98m (i.e. 30% of the estimate of $328m)
- Contributed assets post 1988/89 were estimated to be $102m. This was assessed to have 90% confidence and value was reduced to $102m (90% of the estimate of $113m).

The Inquiry is rightly concerned about the reliability of the estimates, but the objective is to determine the best estimate on the available information, not to set a conservative estimate. There may be good reasons for the Government to adopt a conservative approach in implementing the recommendations of the Inquiry but it is not appropriate for the Inquiry to inject a degree of conservatism in deriving the estimate of a component – the capital contributions – to offset a more general, higher level concern. To the extent that conservatism is required it should be transparent and take the form of an ex post adjustment in the implementation of the Inquiry's recommendations. This is consistent with the ToR, as noted above. Biasing the estimate of the value of contributed assets downwards in the interest of conservatism reduces the transparency of the process.

The basis of the assessment of the confidence in the estimates is a matter of judgment but even so the case has not been made that the estimates are over-estimates. For example, the estimates have to be expressed in terms of replacement costs to be comparable to the RAB value from which they are to be deducted. Given the estimate for pre 1987/88 assets are a single estimate with details of yearly spends, how was this done and what inflators were used? There may be a risk that the estimates are more likely to be under-estimates than over-estimates. Further, it is not clear why a 30% confidence translates into a valuation at 30% of the original estimate. What are the assumptions on the distribution of the errors around the original estimate that would generate such an outcome?

The better course for the Commission would be to use the estimates provided as the basis for the best estimate for the value of contributed assets. Then:

1. Consider the possible sources of error and assess
    a. whether the estimates are likely to be biased upwards or downwards; and
    b. the probable/indicative range for estimates of the value of contributed assets.
2. On the basis of (1) assess the range of possible outcomes and the most likely, or best, estimate.

Unless it can be shown that the range of errors is asymmetric or the base estimate is biased up or downwards, the best estimate available should be presumed to be the one provided.

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[24] This 'double dipping' can be avoided under the economic valuation approach, ***if the revenues used to value the assets do not include a return of, and on, contributed assets.***

9.1. Evaluation of the options proposed by the Inquiry

The Inquiry has estimated the RAB under several approaches. The table below summarises that assessment of those against the criteria proposed by the Inquiry.

The option to use an EV calculated as at the end of 2013 would only be available if it were considered that the Government had not previously set a legacy value and the EV value is less than the RAB estimated on the basis of a compliant DORC value. As none of the EVs calculated meet these requirements, none would be available options under the NWI as implemented in other jurisdictions and should be set aside from the Inquiry's consideration. In testing the EV against the DORC value, the relevant DORC value is that which excludes all contributed assets. The NWI and accepted practice require exclusion of all contributed assets (not just post-corporatisation capital contributions). We would also note that the EV as at 2013 may be overestimated since the revenues have been calculated using a higher return (6%) on legacy assets than the commercial return at the time (5.06%). This implies that excess return would be built into prices for services provided by the legacy assets.

Hence, all EV values are shaded red in the table to indicate that they should not be considered as they are not consistent with the essential requirement of complying with relevant Acts and regulations/agreements.

A concern common to all the approaches that rely on the DORC values is the lack of transparency and testing of the basis of the DORC valuations. As the Inquiry has acknowledged, there can be considerable ranges in the estimation of DORC values[25] but the bases of these values were not published and tested. This is of particular concern given that the process was driven, and the values determined, by the owner. Again, the Inquiry points out the risk that a process that lacks balance will lead to an outcome that may be unbalanced. But given that it is not possible to overcome this problem that is endemic to all the RAB values proposed, we have had to place less weight on that concern than would normally be the case.

The values for Gov1 and Gov3a have been shaded blue as they do not comply with good regulatory practice, which is an important component of the assessment of the overall balance of the RAB valuation. Gov1 revalued the assets to the latest DORC estimates. This option was available under the NWI but it is not consistent with regulatory practice. While initial RAB values in water and energy have sometimes been set on the basis of DORC values, the regulatory frameworks have moved away from revaluing the assets at future reviews based on DORC values. This reflects the fact the regulatory frameworks are now more firmly based on the financial capital maintenance principle. It also addresses a concern that revaluations based on DORC values entrenched information asymmetries. Gov3A used the inflation escalators from the RS/TS. These were not transparent and it was not clear whether they were forecasts of general inflation, producer prices, or something else. Regulatory practice is now quite clear: to be consistent with the financial capital maintenance principle a measure of actual general inflation should be used, as Gov3b does. Hence, option Gov3B is clearly superior to option Gov3a, and the latter should not be considered.

As we have discussed above, there are a range of valid approaches to estimating the RAB and approaches based on DORC or EV are not clearly superior to the other. In seeking to reach a balanced decision the Inquiry should have regard to the outcomes for options Gov3B, Inq1 and Inq3, subject to:

1. Adjustment for pre-corporatisation capital contributions consistent with the discussion above.
2. Further sensitivity testing of the estimation of the EV in 2006 (Inq3). The analysis in the previous CEPA report for Business SA may assist this.

[25] Add reference to the discussion in original CEPA report

3. Recognition that the roll-forward using capex that was not tested by regulators or subject to the incentives created by regulatory scrutiny may overstate the efficient capex in rolling forward the RAB.

Assessment of Valuation Options Proposed in A Balanced Bargain

Option	Basis	Value at 2013 ($m, Dec 2012)		Assessment against Report Criteria		
		DORC/Roll Forward	**EV at 2013**	**Applies the Act**	**Balanced**	**Collaborative**
Gov1	DORC estimate per RS 2013. Includes contributed assets.	7397	-	**Yes**	**No.** Maximum feasible value and revenues/prices. Poor balance between customer and business interests. Inconsistent with regulatory practice.	**No** Original DORC estimates and capex not subject to public or regulatory testing.
Gov2	Economic Value based on GFFCR revenue with 6% non-legacy assets and 5.06% WACC.	-	7261	**No**	**No.** Locks in benefit of reduction in interest rates for the utility owner for **long term.** If EV is to be calculated at 2013 revenue it should use current WACC for return on non-legacy assets in building up revenues.	**Yes** Calculation by Inquiry is transparent, documented and can be challenged.
Gov3a	DORC value 2006 less contributed assets rolled forward using TS/RS values.	7189	7261	DORC/RF – **Yes** EV – **No**	**Mixed** Lock-in of 2006 value consistent with regulatory practice. Use of forecast inflation is inconsistent with regulatory practice. Previous implicit contract partially recognised. Initial RAB (2006) at top-end of range but impact tempered by use of lower WACC. Going forward this would be eliminated if lower WACC not retained.	**No** Original DORC estimates not subject to public or regulatory testing.

Gov3b	Per 3a but rolled forward escalated by actual CPI.	7077	7155	DORC/RF – **Yes** EV – **No**	**Mixed** Lock-in of 2006 value and roll-forward consistent with regulatory practice. Previous implicit contract partially recognised. Initial RAB (2006) at top-end of range but impact tempered by use of lower WACC. Going forward this would be eliminated if lower WACC not retained.	**No** Original DORC estimates not subject to public or regulatory testing. Roll-forward factors subject to transparent review by Inquiry.
Inq1	DORC value 2006 less contributed assets rolled forward using actual CPI and capex.	7151	-		**Mixed** Lock-in of 2006 value and roll-forward consistent with regulatory practice. Previous implicit contract partially recognised. Initial RAB (2006) at top-end of range but impact tempered by use of lower WACC. Going forward this would be eliminated if lower WACC not retained.	**No** Original DORC estimates not subject to public or regulatory testing. Roll-forward factors subject to transparent review by Inquiry.
Inq2	Inq1 with EV calculated using GFFCR revenue with 6% non-legacy assets and 5.06% WACC.		7254	**No**	**No.** Locks in benefit of reduction in interest rates for the utility owner for **long term.** If EV is to be calculated at 2013 revenue should use current WACC for return on non-legacy assets in building up revenues.	**Yes** Calculation by Inquiry is transparent, documented and can be challenged.
Inq3	Economic value for 2006 calculated using TS revenues. Economic value for 2012 uses GFFCR per 2013 RS.	6117 (Note: EV estimate at 2006)	7251	DORC/RF – **Yes** EV at 2013 – **No**	**Mixed** Use of EV for initial RAB consistent with regulatory practice. Locks-in benefits of implicit contract for long term (life of pre-existing assets). RAB (2006) at lower-end of range provides long term benefit to current customers.	**Yes** Calculation by Inquiry is transparent, documented and can be challenged.