

29 July 2013

Mr James Cox PSM
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Dear Mr Cox

Re: Sydney Water Submission to IPART's WACC Methodology – Interim Report

Sydney Water welcomes the opportunity to respond to the interim report on the weighted average cost of capital (WACC) that was issued by Independent Pricing and Regulatory Tribunal's (IPART) in June 2013. The cost of capital set by the regulator is a key determinant of price to deliver services to customers, and provides an efficient firm with the opportunity to earn the level of return required to cover its costs of funding investments.

Sydney Water notes that in its 2 April submission it was supportive of a pragmatic approach being adopted in the interim to set the WACC for Hunter Water and the Central Coast councils given the problems IPART recognised with its current method. The Interim Report synthesises the WACC methodology used in the recent IPART determinations for the Hunter Water and Central Coast Council businesses, as well as the regulated retail supply of gas and electricity. We believe the proposed approach represents a significant improvement on both the regulatory objectives outlined in the December 2012 Discussion Paper and the previous approach used by IPART. Sydney Water anticipates that further development of IPART's thinking will be reflected in its Draft Decision in September, as it looks to establish a robust long term methodology that can be used to estimate the WACC.

On this basis, in responding to the Interim Report, we have limited our submission to dealing with what we consider to be key aspects of the report. This letter and the attached independent expert report by NERA therefore addresses:

- the Regulatory Objective and its application;
- the estimation of the Expected Cost of Debt; and
- the selection of the WACC point estimate.

The Regulatory Objective and its application

Sydney Water believes the stated regulatory objective in the Interim Report of setting a cost of capital at a value that reflects the efficient cost of capital for a 'benchmark entity' firm that operates in a

competitive market and faces similar risks to the regulated business, represents a significant improvement on the proposal in the original Discussion Paper. The stated objective in the Interim Report is consistent with the promotion of outcomes in the long term interests of consumers.

The move away from reliance upon the 'new entrant' objective and the resulting use of spot market rates should in principle ensure the regulatory process no longer distorts the efficient financing decisions of utilities. Further, it limits financeability risks apparent from using spot market rates in more recent times, where the prevailing cost of capital estimate using spot market rates, has been considered well below the prevailing market rates.

As the NERA report outlines, an implication of applying the objective in the Interim Report is that there should now be no marked difference between the financial strategies for a benchmark firm in the water sector and the electricity and gas sector. Based on the empirical evidence as to the debt financial strategies of infrastructure businesses operating in competitive markets the average maturity of debt of regulated infrastructure entities at issuance should be around 10 years.

Estimating the Cost of Debt

IPART's approach in the Interim Report reflects that the financing strategies of unregulated businesses in competitive markets are a mix of current and past interest rates. We believe that this is consistent with the efficient approach to debt financing adopted by a business supplying services using long-lived infrastructure assets. It also reflects an improvement on the previous approach used by IPART, where the cost of debt was set with reference to spot market rates.

Sydney Water does however have concerns about the simple averaging of the prevailing cost and its long term average cost (i.e. 10-year average) in estimating the cost of debt. The 50-50 split, if not reflective of the effective interest costs of a benchmark entity and has the potential to distort the way firms engage with efficient capital markets. This can occur through businesses entering into complex hedging arrangements to lower risk and refinancing significant portions of debt close to the regulatory reset period.

To avoid any unintended consequences arising from the estimate of the cost of debt, Sydney Water maintains the view from earlier submissions that IPART should in the longer term look to adopt a long term trailing average estimate.

Selection of the WACC point estimate

Sydney Water is encouraged that IPART has provided further detail around its proposed approach to choosing the point estimate of the WACC. We believe however that additional guidance is required for regulated utilities to understand precisely when IPART would look to deviate from the default midpoint value. Sydney Water also questions whether a default midpoint value is the right default criteria. For example, the New Zealand Commerce Commission has indicated that based on the principle of wanting to avoid any risk associated with underestimation of the WACC, a 75th percentile estimate should be used.

We also note that if IPART were to adopt a trailing average approach for debt, then the relevant midpoint value for the WACC would actually be dependent on the midpoint estimate of the cost of equity. Given the narrowness of plausible ranges in recent estimates highlighted by NERA in its report, we believe that as outlined by NERA, IPART should consider a greater range of CAPM parameter values and have regard to the outcomes of alternative models, such as dividend growth models, the Black CAPM or the Fama-French three-factor model.

We look forward to IPART's ongoing engagement with Sydney Water in the development of the WACC methodology. For further information in relation to this submission, please contact Dr Kris Funston, Manager Competition and Regulation on (02) 8849 4856 or kris.funston@sydneywater.com.au.

Yours sincerely,

A solid black rectangular box used to redact the signature of Sandra Gamble.

Sandra Gamble
General Manager
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IPART's WACC Methodology – Response to Interim Report

Sydney Water Corporation

July 2013

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1. Introduction

This report has been prepared by NERA Economic Consulting at the request of Sydney Water Corporation. Its purpose is to comment on aspects of the Independent Pricing and Regulatory Tribunal's (Tribunal's) Interim Report entitled the '*WACC Methodology – Interim Report*', June 2013 (Interim Report), which sets out interim decisions on the WACC methodology to be applied in determining prices for regulated infrastructure services. This report should be read in conjunction with our first report entitled '*IPART's WACC methodology discussion paper*', 14 March 2013, which commented on various aspects of the Tribunal's discussion paper.

The Interim Report sets out interim WACC methodology applied by the Tribunal in a number of recent price decisions for various NSW water businesses as well as for the regulated retail supply of gas and electricity. Looking ahead, the Interim Report foreshadows the Tribunal's intention:

- to modify the objective for setting the WACC so as to set a value that reflects the efficient cost of capital for a 'benchmark entity';
- to establish a WACC range using the mid points of the range estimated using current market data and long term averages; and
- to adopt the midpoint of the WACC range as the default value while also being prepare to test the appropriateness of that mid-point in light of financial market data and other information.

Our report is structured as follows:

- section 2 comments on the proposed changes to the WACC objective and highlights a number of implications for the setting of the cost of capital for regulated businesses;
- section 3 reiterates our earlier contention that adopting a long term average cost of debt best meets the new WACC objective, since it reflects the financing practices of businesses in a competitive market with long lived assets; and
- section 4 evaluates the methodology proposed to determine the WACC and suggests a number of possible refinements.

We have prepared this paper by reference to our experience in advising regulators, service providers and other stakeholders on how best to determine the WACC to promote efficiency-related objectives.

2. WACC Objective

The Interim Report reaffirms that the objective for setting the WACC is to establish *a value that reflects the efficient cost of capital for a 'benchmark entity'*. This objective is consistent with those applied by other Australian jurisdictional regulators.¹

In our first report we concluded that this objective was sound. However, we expressed the view that the three additional characteristics attributed by the Tribunal to the efficient benchmark utility were neither necessary nor helpful. It is encouraging that the Interim Report shifts away from these characteristics and proposes to define a 'benchmark entity' for the purposes of determine the WACC as a:

firm that operates in a competitive market and faces similar risks to the regulated business that is subject to our decision.

The Interim Report further clarifies that the definition of the benchmark can be viewed as consisting of two distinct components:

- the firm that operates in a competitive market, which guides the Tribunal's thinking on the relevant financing strategies and how it will consider current and long term average market rates; and
- that such a firm faces similar risks to the regulated business, which guides the Tribunal's thinking on how beta and the gearing ratio should be estimated.

In our opinion, the guidance on how the WACC objective will be applied represents a substantial step forward. In particular the removal of the characteristic that the WACC should reflect the costs of a new entrant allows an efficiency-enhancing development of the WACC methodology – namely, the ability to have regard to long-run averages.

We note that one implication of taking as a guide the financial strategies of a benchmark entity operating in a competitive market is that there should be no marked difference between the financing strategies of a benchmark firm in the water sector and that adopted for the electricity and gas sector. In both cases the relevant entities would be:

- predominately investing in long lived assets, ie, assets with an average economic life over 40 years;
- accessing Australian debt and equity markets to finance these long lived assets; and
- serving similar customers, ie: residential; small and medium enterprises; large firms; and government customers.

Although there may be clear differences in the degree of systematic (or beta) risk of firms operating in the two sectors, there is no reason to expect that the term of the WACC adopted for water service providers would be different from that used in electricity and gas price

¹ See clauses 6.5.2(c) and 6A.6.2(c) of the National Electricity Rules (NER) that specify the *allowed rate of return objective* to apply to electricity distribution and transmission network service providers.

review. In our opinion, in each case the Tribunal should be guided by empirical evidence as to the debt financial strategies of infrastructure businesses operating in competitive markets, which clearly indicate that the average maturity of debt at issuance by regulated infrastructure entities is around 10 years.²

We note that the WACC objective contained in the Interim Report also cuts across the position advocated by Professor Kevin Davis, that the term to maturity for debt should be taken as equal to the regulatory period. This is because there is no evidence to suggest that firms operating in competitive markets refinance all their debt at a single point in time for a term equal to a specified period.

Such an approach is not eschewed by entities operating in competitive markets because it introduces an unacceptable degree of refinancing risk and/or is not practicable for an entity to refinance at any concentrated point in time due to its size. The position that a benchmark entity would refinance all its debt at the start of a regulatory period is a precondition of Professor Davis' argument that the term of the WACC should match the regulatory period since it ensures that the net present value of the cash flows of an investment is zero.

² AER, *Electricity transmission and distribution network service providers – Review of the weighted average cost of capital (WACC) parameters: Final decision*, May 2009, page 158.

3. Estimating the Expected Cost of Debt

The effect of the Tribunal's interim decision is that the default WACC will reflect a cost of debt that is an average of its prevailing cost and its long term average cost (ie, 10-year average). The Tribunal reaches this interim decision through its observations of the financing strategies of unregulated businesses, and particularly that the effective interest costs are a mix of current and past interest rates.

The Tribunal's observation is consistent with our understanding of the efficient approach to debt financing that would be adopted by a business providing services by means of long-lived assets but not subject to any form of administrative price determination. In other words, since it is generally neither possible nor economic to raise debt for terms even close to the typical average life of their assets, infrastructure service providers seek to minimise refinancing risk³ by:

- predominately issuing longer term debt, thereby limiting the number of occasions that debt must be rolled over; and
- staggering debt maturity dates over time, thereby minimising the amount of debt that must be refinanced in any given time period.

In consequence, at any point in time the effective interest rate paid will closely correspond to a weighted average of the historical yields on corporate bonds issued by infrastructure service providers to finance their assets.

It follows that a regulatory regime that periodically resets revenues or prices on the basis of the prevailing cost of debt runs the risk of either:

- increasing the risk of equity, through the mismatch between the effective cost of interest and the regulated allowance for debt; or
- distorting the financing practices of a infrastructure service provider, which changes its otherwise efficient debt management practices or engages in costly hedging to minimise any potential mismatch between its expected interest costs and its regulatory allowance for debt interest.

In our opinion, the Tribunal's interim decision to set the default WACC by reference to an average of a 40-day average the prevailing yield on benchmark bonds and the 10-year average of the yield on benchmark bonds, is a significant improvement on the past approach of relying solely on the current spot rate.

Nevertheless, we believe there would be considerable merit in the Tribunal considering two potential modifications to its interim approach to the cost of debt, namely:

³ Refinancing risk refers to the possibility that a borrower cannot repay its debt obligations when they fall due. This may occur even though the firm's assets are greater than its liabilities (ie, a positive net worth), because the firm nevertheless cannot raise sufficient liquid funds to pay creditors as those obligations come due. The existence of aberrant capital market conditions – such as those seen during the most disruptive periods of the global financial crisis, provide a pertinent example.

- calculating the long term average over a period that matches the term of the benchmark debt; and
- undertaking analysis directed at assessing whether a 50/50 split between prevailing and long term average best reflects the likely effective interest costs of a benchmark entity operating in a competitive market.

IPART's interim decision is to estimate the long term average cost of debt over a 10-year period. An averaging period that matches the term of benchmark debt is sensible since it represents a reasonable proxy of the benchmark infrastructure service provider's average cost of debt at the start of the regulatory period.⁴

However, if the term of benchmark debt is either longer or shorter than averaging period, then the long term average would no longer reflect the benchmark infrastructure service provider's average cost of debt at the start of the regulatory period. For example, the implication of determining that the term of benchmark debt is five years⁵ while adopting a ten year averaging period means that 50 per cent of the average yield is determined by bonds that are no longer in circulation. In other words, the ten year long term average yield is unlikely to reflect the effective interest rate paid by a benchmark entity since half the average yield is determined by bonds that are no longer part of the debt portfolio of the entity.

We therefore suggest that the Tribunal consider matching the averaging period to the term of benchmark debt. This would ensure that the default WACC reflects the benchmark infrastructure service provider's average cost of debt at the start of the regulatory period.

We also suggest that the Tribunal undertake further analysis of whether a 50/50 split between the prevailing rate and a long term average best matches the likely effective interest costs of a benchmark entity over the regulatory control period. The proposed interim decision to rely on prevailing debt costs for 50 per cent of the default debt allowance means that infrastructure service providers continue to have a strong incentive to:

- enter into complex hedging arrangements to reduce the risk that their actual debt costs will not match the debt allowance; and/or
- refinance a significant portion their debt close to the reset period and accept the significant refinancing risk associated with this practice.

It is possible that a better mechanism for establishing the allowance for the cost of debt could be developed to match the effective interest costs of the benchmark entity more closely. Although we fully acknowledge that this is a matter for more extensive analytical examination, the Tribunal should at least consider an approach that sets the default debt allowance by reference to:

⁴ In other words, that the benchmark entity evenly and continuously issues 10-year debt. Adopting that benchmarkst, setting a cost of debt allowance on the basis of a long term average calculated over a 10-year period would closely align to the benchmark entity's effective debt costs at the start of the regulatory period.

⁵ We note that the empirical evidence is overwhelmingly contrary to the suggestion that, on average, infrastructure service providers issue 5 year debt. Rather the available evidence supports the proposition that average term to duration of corporate debt issued by infrastructure service providers is close to 10-years (see set out in section 2 of this report).

- a long term trailing average of the total cost of debt benchmark yield; and
- a total cost of debt benchmark yield at the start of the regulatory period, updated each year on the basis of a long term rolling trailing average.⁶

We also suggest that the Tribunal give due consideration to the potential need for appropriate transitional provisions. Arrangements that allowed for the transition from one form of debt benchmark to another would mitigate the risk that implementing a trailing average did not result in any unintended outcomes to the detriment of infrastructure service providers and/or end users.

Notwithstanding the potential for implementation challenges, in our opinion the proposed interim position is a considerable improvement on the past approach of relying solely on the current spot rate.

⁶ For example, the cost of debt in 2016 could be estimated on the basis of a trailing average benchmark debt yields over the 2006 to 2015 period, while in 2017 the cost of debt would be estimated on the basis of benchmark debt yields over the 2007 to 2016 period, and so on.

4. WACC Determination Process

The Interim Report set out a WACC determination framework that involves three principal stages, ie:

Stage 1 - establish a WACC range based on consideration of the prevailing rates and long term averages and calculate the midpoint;

Stage 2 - adopt the midpoint of the WACC range as the default WACC value and assess this value against a set of financial market information; and

Stage 3 - choose a WACC point estimate.

In our opinion, this assessment framework has the potential to deliver improved estimates of the cost of equity. However, this process is not an ideal method for setting the regulatory allowance for debt.

An important distinction between debt and equity is that the cost of debt is relatively easy to ascertain from market data, since the cash flows of a bond are transparent. In contrast, the cost of equity cannot be directly inferred from historical market data since the cost of equity depends on investors' expectations of future dividends, which can never be definitively quantified. This point was made by Guy Debelle (the Assistant Governor of the Reserve Bank of Australia) in a letter to the ACCC where he states:⁷

While it is a reasonable simple matter to infer changes in debt risk premia from market prices, it is less straightforward to do so for equity premia.

The ability to determine the cost of debt from observable market data raises the question of whether introducing a degree of judgment in the determination of the allowance for debt is necessary or indeed helpful. It is difficult to see how an examination of financial market information would assist the Tribunal in deciding whether to depart from an allowance that has been estimated using a 50/50 split between prevailing and long term average debt costs. This is because it is highly unlikely that any infrastructure service provider would have a debt portfolio so heavily weighted with recently issued debt. However, it does not follow that, just because comparable businesses are not heavily weighted to recently issued debt, the default position should be rejected.

In our opinion, the method for determining the allowance for the cost of debt should seek:

- to provide the infrastructure service provider with a reasonable opportunity to recover its debt costs in the long term; and
- to reduce the extent of debt financing risks faced by an infrastructure service provider, eg, by reducing the possibility that the cost of debt actually incurred by a firm differed substantially from its cost of debt allowance.

⁷ Guy Debelle, Letter to Joe Dimasi entitled *The Commonwealth Government Security Market*, dated 16 July 2012.

The adoption as a default value of the Tribunal's proposed 50/50 split between prevailing and long term average debt costs is likely to cause the debt cost allowance to differ substantially from the actual effective debt costs of a comparable business, which is more likely to reflect its past debt costs in combination with any specific hedging strategies.

In our opinion, it would be preferable for the Tribunal to provide businesses with a high degree of certainty as to how the cost of debt allowance will be determined. This would involve specifying and committing to setting the cost of debt allowance by way of a transparent and predictable methodology, ie, the use of:

- either the current or trailing average or some combination of the two for determining the benchmark debt cost allowance; and
- either a static debt cost for the whole regulatory period or the adoption of a mechanism that would allow debt costs to be updated annually by way of rolling trailing average.

Providing certainty on these matters would then allow each infrastructure service provider to develop effective debt risk mitigation strategies. In contrast, a framework that introduces a level of discretion on how the allowance for debt costs will be determined would frustrate the implementation of effective debt risk mitigation strategies since many of strategies must be implemented at the time in when the debt is issued.⁸

Notwithstanding these concerns, we believe that the assessment framework set out in the Interim Report generally provides a solid foundation for assessing the cost equity. However, further refinement as to how the cost of equity range is developed is also likely to be achievable. The proposed interim approach is to specify the cost of equity range by reference to:

- the midpoint of CAPM parameters estimated from data prevailing at the time of the determination; and
- the midpoint of CAPM parameters estimated from average long term data.

We observe that this approach could result in a relatively narrow range of plausible cost of equity values. For example, in the recent Victorian gas determinations all the gas pipelines proposed to use the same beta value but one business specified the risk free rate and MRP by reference to prevailing rates while the other pipelines adopted long term average values. The resulting cost of equity estimates were:

- 9.80 per cent from the four gas distribution pipelines that relied on long term average data;⁹ and

⁸ For example, optimal debt risk mitigation strategy for a infrastructure service provider would be very different if at the next determination its debt allowance was wholly determined by:

- the debt costs prevailing at the time of the determination in which case the business may seek to issue floating notes and hedge the underlying risk free rate at the time of the determination; or
- by reference to a long term average in which case the business may seek to periodically issue fixed yield bonds.

⁹ See AER, *Access arrangement final decision – Envestra Ltd 2013-17 - Part 1*, March 2013, page 30.

- 10.20 per cent from APA that relied on prevailing market conditions.¹⁰

A range of 0.40 per cent is likely to be insufficient to cover the range of plausible cost of equity values. In our opinion, the Tribunal should therefore give thought to adapting its methodology to extend the plausible range of the cost of equity potentially by:

- determining the range by reference to the range of plausible CAPM parameter values using both the model as specified with both prevailing and long term average data; and
- having regard to other cost of equity models such as dividend growth models, the Black CAPM or the Fama-French three-factor model.

¹⁰ See AER, *Access arrangement final decision – APA GasNet Australia (Operations) Pty Ltd 2013-17 - Part 1*, March 2013, page 25.

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