

Mr Warwick Anderson
General Manager, Network Finance and Reporting
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

By email: Rateofreturn@aer.gov.au

29 June 2017

Dear Mr Anderson,

Re: Submission to the AER's discussion paper on the regulatory treatment of inflation

Spark Infrastructure welcomes the opportunity to contribute to the Australian Energy Regulator's (AER's) discussion paper on the regulatory treatment of inflation.

Spark Infrastructure makes long-term investments in leading Australian energy networks. It has been an ASX listed investment vehicle since 2005, with a market capitalisation of around \$4.5 billion. Spark Infrastructure's investment portfolio includes 49% interests in SA Power Networks (South Australia), CitiPower and Powercor (together known as Victoria Power Networks, in Victoria), and a 15% interest in TransGrid (NSW). Spark Infrastructure is 80% owned by Australian professional, superannuation and retail investors.

The businesses in our investment portfolio rank amongst the top performing electricity distribution and transmission networks in Australia, maintain constructive labour relations (including investment in employees and apprentices), and achieve best in class safety and reliability.

Spark Infrastructure is a long term investor in the provision of safe, reliable and efficient network services. We have invested around \$4.5 billion in infrastructure assets over the past decade. More recently this has been in an industry backdrop which is experiencing fundamental changes, driven by the growth of distributed and embedded renewable generation; evolving consumer demands; changes in ownership; and changes in the regulatory and political environment.

Investment in this environment is now even more challenging; not just to provide traditional essential services to customers but also to respond to and support the changing needs of customers and develop innovative ways to meet customer needs, while at all times focussed on continuing high standards of reliability and network security, all at the lowest efficient cost.

We accept market risks associated with operating in a changing environment. However, an important underpinning of our investment decisions is the stability of the regulatory framework and the ability to recover efficient costs as intended under the framework. Recovering efficient costs is essential for investment. Uncertainty surrounding the ability to recover costs stifles investment and impacts on services provided to customers. This is not in the long term interests of customers.

Therefore, it is imperative that we get the basics right in applying the regulatory framework and ensure that identified errors are addressed. Spark Infrastructure believes that the problems outlined in the AER's Discussion Paper on the regulatory treatment of inflation arise because of an error in the interaction of the models utilised by the AER to give effect to its decisions under the regulatory framework. Network Service Providers (NSPs) are not compensated for accepting the risk arising from this error, and it is not a risk that can be mitigated or managed effectively. If left uncorrected this error will mean that investors are not provided with an opportunity to earn an efficient return on investment and customers will pay more or less than the efficient cost of services. This could

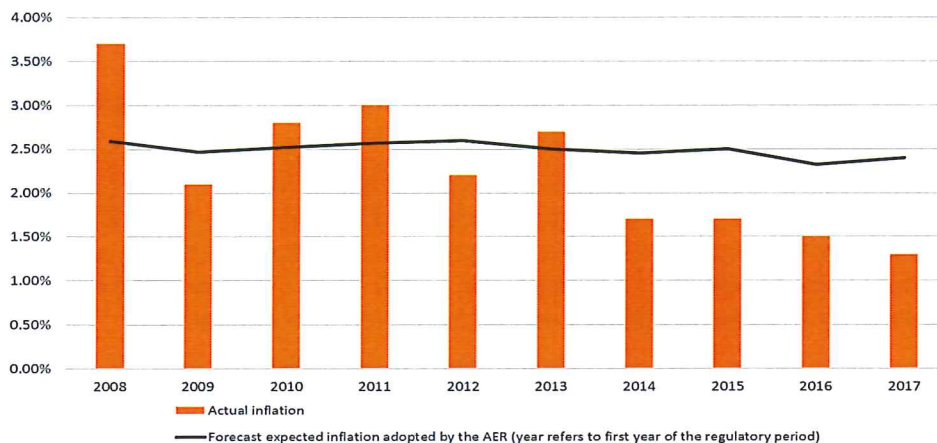
increase the cost of capital and the costs to customers. Correcting the error now will prevent customers paying too much in the future and ensure service levels are maintained.

In an environment of increasing risk it is inevitable that investors will require increasing returns as compensation for providing capital and bearing that risk. It is important that the AER recognises its role in either exacerbating or mitigating the risks, given that this will impact on required returns and therefore on costs to consumers.

Notwithstanding the error we believe exists in the interaction of the regulatory models, we agree that the AER's method for forecasting expected inflation should be the best estimate. We do not agree that the AER's current method is the best estimate.

The AER's method has deteriorated in effectiveness since it was introduced in 2008 so that over the last four years the divergence between the AER's forecast of expected inflation and actual inflation has widened and remained significantly below actual inflation. The chart below illustrates this.

Chart 1: Actual and forecast inflation since the inception of the AER's current method



Source: AER determinations and RBA

Recovering the efficient cost of services is fundamental to effective operation of the regulatory framework. We do not agree with the AER's position that businesses are compensated for inflation because this is only true for costs that rise or fall with inflation. NSPs and investors accept inflation exposure on the return on equity. However, where costs do not rise or fall with inflation such as is the case for the efficient cost of debt, the AER's approach provides lower or higher compensation than the determined level of efficient costs. Therefore, the current regulatory framework gives rise to a risk that variations in compensation due to inflation do not match the variation in costs due to a variation in inflation as a result of inaccurate forecasting.

Over the period since 2008 when the AER first changed its method for forecasting inflation from the break-even approach to its current approach, NSPs have not been able to recover their efficient costs. This has flowed through to customers in lower prices. However, in the future, if inflation recovers above the AER's forecast, customers will pay more than they otherwise should.

We recognise that correcting this issue now may limit the opportunity for NSPs to benefit from windfall gains in the future. We believe it is more important for the operation of the post-tax revenue model (PTRM) and the roll-forward model (RFM) to work as intended than gain from the continuation of this error, which is exacerbated by a poor forecast methodology.

The AER must improve the method for forecasting inflation as well as correcting the error in the interaction of the PTRM and RFM. We have proposed a mechanism to address this issue that also minimises the impact to customers.

The AER outlines proposals that have been received from some NSPs to correct the regulatory framework so that a nominal rather than real return on the regulatory asset base (RAB) is delivered. This approach would

incorrectly compensate NSPs for the efficient cost of equity, which is a real cost, and customers would continue to pay more or less than they otherwise should.

A further issue raised by the AER in the Discussion Paper is the potential implications of any change on equity beta, credit ratings and debt ratios. A change to the method for forecasting expected inflation that provides a more accurate forecast and a change to correct the operation of the models to deliver the outcome intended under the regulatory framework will not lower the equity beta, increase credit ratings or reduce debt ratios.

On the contrary, now identified, inaction by the AER to address this problem may be perceived as contributing to a more uncertain, less stable regulatory environment which could have detrimental effects on credit ratings and the returns expected by equity holders. This would increase the cost of capital and therefore prices to customers.

Our attached submission outlines our views on the following issues identified in the AER's Discussion Paper. In summary:

1. NSPs must have the opportunity to recover the efficient costs of providing services to ensure that service levels are maintained.
2. The AER must use a method for forecasting expected inflation that delivers the best estimate to minimise the implications for customers and investors of a mis-match between forecast and actual inflation.
 - **Recommendation:** Adopt the break-even method for forecasting expected inflation
3. The regulatory framework must be changed to correct the error in the operation of the PTRM and RFM to properly compensate NSPs for the AER's estimate of efficient costs.
 - **Recommendation:** Include an annual adjustment to revenue of an amount equal to the difference between expected and actual inflation multiplied by 60% of RAB
4. A transition is required to ensure efficient incentives for investment are maintained in the current and future regulatory periods.
 - **Recommendation:** Provide for a one-off adjustment to PTRM revenues to apply to the regulatory period following the current regulatory period for the difference between the forecast inflation and actual inflation on 60% of the RAB over the current regulatory period
5. Correcting the error in the operation of the regulatory models is a mechanical issue which will have no effect on market risk.

We support further consultation on the timing and approach to implementing changes so that the operation of the models can be properly assessed against intended outcomes.

Please contact myself or Sally McMahon on 0421057821 with any follow up questions or discussion regarding this submission.

Yours sincerely,



Rick Francis
Managing Director & CEO
Spark Infrastructure

ATTACHMENT: Spark Infrastructure's Submission on the Regulatory Treatment of Inflation

Spark Infrastructure is making this submission in the context of the growing importance of private investment in Australian energy infrastructure.

Private capital presently invested directly as equity or as debt financing for Australia's energy networks totals tens of billions of dollars. Private investment is critical to the continued provision of secure, reliable and efficient network services and to ensure timely and efficient growth of energy infrastructure to meet increasing customer expectations.

The Harper National Competition Policy Review¹ observed that the outcomes achieved under private investment in Australia's energy infrastructure are more consistent with supporting the long-term interests of consumers than outcomes being achieved by state-owned energy infrastructure:

*"The increased role of the private sector in infrastructure has brought considerable public benefit... Privatisation has also delivered more efficient management of assets and investments have been more responsive to changes in market demand... Well-considered contracting out or privatising remaining infrastructure assets is likely to drive further consumer benefits through comparatively lower prices flowing from greater discipline on privatised entities."*²

The eventual privatisation of the remaining state owned assets will continue to increase the importance of ongoing private investment in electricity networks and investor confidence to the sector's performance. Capital for such private investment is sourced globally, and local infrastructure investments must compete for capital both across the globe and with other infrastructure sectors.

This submission seeks to highlight an issue that affects the ability and willingness of investors to invest and results in customers paying more or less than the allowed efficient cost of service than should otherwise be the case. To continue without change would be to embed these risks permanently in the regulatory framework, and would require increased returns in equity to compensate for what is essentially an unmanageable risk.

1. NSPs must have the opportunity to recover the efficient costs of providing services

The current regulatory treatment of inflation results in network service providers (**NSPs**) being able to recover, and customers paying, more or less than their efficient costs simply as a result of variances between the Australian Energy Regulator (**AER**) forecast of expected inflation and actual inflation. This error arises because of an error in the interaction of the Post Tax Revenue Model (**PTRM**) and the Roll-Forward Model (**RFM**) that does not give effect to the AER's approach to estimating efficient costs. However, the impact of the error is exacerbated where the methodology for forecasting expected inflation does not provide the best estimate. The AER's forecast of expected inflation has deviated further from actual inflation since it was introduced for regulatory periods commencing after 2008, and has been consistently and significantly below actual inflation since 2014. This has resulted in NSPs not having an opportunity to recover their efficient costs.

This issue arises because of:

- The requirements of the regulatory framework
- The incorrect operation of the PTRM and the RFM to provide compensation for the AER's estimate of efficient costs.

1.1. The requirements of the regulatory framework

Under the economic regulatory framework, the AER sets an efficient level of revenue for NSPs. The efficient level of revenue is set to recover efficient costs. The efficient costs consist of operating and capital costs and

¹ The Australian Government Competition Policy Review, March 2015, section 11.1.

² Ibid, Section 11

tax liability. The capital costs include the return of capital and the return on capital (on the regulatory asset base (**RAB**)).

The National Electricity and Gas Rules (**NER** and **NGR**) provide for a return on the RAB that is commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to a NSP. The return is to be a weighted average of the return on equity and the return on debt and determined on a nominal vanilla basis that is consistent with the estimate of the value of imputation credits. The vanilla weighted average cost of capital (**WACC**) is the combination of a nominal post-tax return on equity and a nominal pre-tax return on debt.

In the Rate of Return Guideline (**ROR Guideline**)³, the AER outlined its approach to estimating the weighted average of the return on equity and return on debt. The weights used reflect the AER's assessment of the relative proportion of equity and debt in the total financing arrangements of a benchmark efficient network business assuming a benchmark gearing ratio of 60 per cent.

The NERs also require that the RAB be adjusted by actual inflation each year and that a corresponding negative adjustment is made to the allowed revenue equal to the RAB inflation adjustment. The negative adjustment is required because otherwise applying a nominal rate of return to a RAB indexed for inflation would double-count inflation. Therefore, the AER forecasts the inflation to apply to the RAB and then removes an amount equal to the forecast inflation on the RAB from allowed revenue as a deduction from the straight-line depreciation amount. Removing the indexation of the RAB amount from total revenue to avoid double compensation for inflation provides for the same total annual revenue as if a real return is used in combination with an indexed RAB⁴. The revenue deducted for forecast inflation is not trued up for actual inflation, noting that RAB is indexed for actual inflation.

1.2. Compensation for efficient costs under the PTRM and the RFM

The regulatory framework provides compensation to NSPs based on the building block costs. The efficient building block costs for operating expenditure, capital expenditure, tax and return on equity are estimated by the AER in real terms. However, the efficient costs of debt are estimated in nominal terms.

In the ROR Guideline, the AER outlined its preferred approach to estimating the efficient cost of debt for a benchmark efficient entity (**BEE**). The efficient debt costs of a BEE are incurred in nominal terms. Therefore, there is an inconsistency between providing total compensation based on actual inflation (revenues provide a real return on RAB based on the removal of expected inflation and the RAB RFM provides compensation for actual inflation) when efficient debt costs are incurred in nominal terms. In other words, the efficient debt costs do not move in proportion to actual inflation. Therefore, adjusting total compensation in proportion to actual inflation may match the compensation required for the allowed capital and operating expenditure but will result in too much or too little revenue to cover efficient debt costs (this is not a problem for other cost categories that can be modelled as moving proportionally with actual inflation – including expenditures and the cost of equity).

In the ROR Guideline, the AER recognised that this risk had direct implications for the return on equity⁵ referring to the submission by SFG Consulting,

“Consider a firm that operates a single regulated network. For such a business, any difference between the costs of servicing its debt and the allowed return on debt will flow through to (or from) equity holders. This is because the firm must pay its debt holders exactly what it has promised them, irrespective of whether the regulatory allowance is more or less than what is to be paid. Any surplus or deficit will then flow to (or from) the equity holders as the residual claimants. Consequently, if a regulated firm is able to match its debt servicing costs to the regulatory revenue allowance, it will remove this source of cash flow volatility to equity holders. It is for this reason that many regulated

³ AER, Better Regulation, Rate of Return Guideline, December 2013.

⁴ AER, Regulatory treatment of inflation, Discussion Paper, April 2017, p. 21.

⁵ AER, Better Regulation Explanatory Statement, Rate of Return Guideline, December 2013, Explanatory Statement, p. 107.

*businesses seek to create the best possible match between their borrowing costs and the regulatory revenue allowance in relation to those borrowing costs.*⁶

The AER considered that this risk was most apparent in the 'on the day' approach and that it would be addressed with the adoption of the trailing average portfolio approach to estimating debt. However, in implementing the trailing average portfolio approach to estimating debt, the AER did not take in to account the impact on equity if the rate of return included in the allowed revenue is a real return on RAB when debt costs are incurred in nominal terms.

In the ROR Guideline, the AER did acknowledge the consequences of a variation in the return on debt and equity compared to the allowance,

*"If the expected return on debt (and equity) raised in a period is different from the return on debt (and equity) allowance for the period, this difference may distort intertemporal investment and consumption decisions. That is, it may result in dynamic inefficiency. In particular, if the return on debt allowance is below the expected return on debt this might result in under-investment. On the other hand, if the return on debt allowance is above the expected return on debt this would lead to over-compensation for the regulated business and customers paying prices that are above efficient levels."*⁷

This has not been a significant issue over time as the difference between the AER's forecast and actual inflation has been both positive and negative, and slightly lower on average over time. However, the significant weight given to the mid-point of the RBA's target range for inflation (used in the AER's forecasting methodology for inflation) has meant that since 2014 when inflation has fallen well below the midpoint of the RBA's target range, the AER's forecast of inflation has remained significantly above actual inflation. This variance has resulted in considerable and sustained losses to NSPs. These losses are expected to continue into subsequent regulatory periods because of the reduced effectiveness and use of monetary policy instruments by the RBA to influence inflation such that it returns to the mid-point of the target range in the short to medium term (this issue is discussed further later in this submission).

Spark Infrastructure estimates that this has led to equity returns for its portfolio businesses being lower than provided for in the allowed return in the current and preceding regulatory periods (commencing in 2009 for TransGrid, 2011 for CitiPower and Powercor and 2012 for SAPN). The impact has and will be material in the 2014-2018 regulatory period for TransGrid, the 2015 to 2020 regulatory period for SAPN and the 2016 to 2020 regulatory period for CitiPower and Powercor.

The materiality of this issue was outlined by TransGrid in its 2017 Revenue Proposal provided to the AER in January 2017. TransGrid estimated the impact of the mis-match between the AER's forecast inflation and actual inflation over the 2014/15 to 2017/18 regulatory period to be \$170 million in lower (nominal) revenue compared to the allowed efficient costs⁸.

2. The AER must use the best estimate of expected inflation

The AER's current method for estimating inflation is not the best estimate of inflation as required by the NER⁹. The AER's forecast of inflation has not performed well over time, does not respond to the prevailing conditions in the market and has exacerbated the risk of recovering the efficient cost of providing services in a low inflation environment. Further, when assessed against the appropriate criteria, better methods are available.

⁶ SFG Consulting, *Rule change proposals relating to the debt component of the regulated rate of return, Report for AEMC*, 21 August 2012, p. 22.

⁷ AER, *Better Regulation Explanatory Statement, Rate of Return Guideline*, December 2013, Explanatory Statement, p. 109.

⁸ TransGrid, *Revenue Proposal 2018/19 to 2022/23*, January 2017, p. 211.

⁹ NER 6.4.2(b)(1)

2.1. The criteria for considering the best estimate of expected inflation

The AER indicated that the ACCC's working paper concluded that the RBA inflation forecast and target band method is the best approach to estimating expected inflation because it is simple, transparent, and replicable. Further, the working paper concluded that long-term inflation expectations are anchored within the RBA's target band for inflation (2% to 3%), are relatively stable, and is considered to be relatively congruent with the 10 year market-expected inflation rate.

However, the working paper does not acknowledge that, especially absent reform to the framework to treat debt explicitly as a nominal cost, the role of inflation in the PTRM is to forecast the actual inflation adjustment that will apply to the RAB in the RFM. The AER has adopted a different measure (CPI) as the most appropriate measure of inflation to apply in the RFM to roll-forward the RAB and the measure used to adjust annual revenues for inflation.

Spark infrastructure does not support the conclusions or the criteria of the working paper. Whether an approach for estimating inflation is the best estimate or not should be related directly to the task the estimate performs and consider the implications of the estimate being wrong. Spark Infrastructure supports principles of transparency and replicability as these are key contributors to investment certainty. However:

- Simplicity should only be a factor if there is a choice between equally performing methods.
- The forecast method must be capable of responding to the prevailing conditions in the market. If market conditions are stable, then the forecast might also be. However, if market conditions are not stable, then there is no reason why the forecast should be stable.
- The forecast inflation adopted in the PTRM at the commencement of each regulatory period is substituted with actual inflation after 5 years, therefore, it is not apparent that a 10 year forecast is relevant for the purpose of estimating inflation to be applied to the RAB.

Spark Infrastructure also notes that the AER has not subjected its own method to the level of assessment it has applied to the other three methods outlined in the Discussion Paper. Further, the AER has not sought to consider the materiality of the issues identified or why some of these issues that are also characteristics of the risk free rate are acceptable when estimating the rate of return, but not inflation.

The AER's method forecasts the two-year path to the mid-point of the RBA's target range for inflation (2.5%) resulting in 80% weight given to an outcome of 2.5%. The effect of the forecast is to increase or decrease the return on equity depending on how effective the RBA has been in taking action to influence inflation and where it has done so, targeted the mid-point of its range. The RBA is tasked with conducting monetary policy to control inflation. However, clearly, the RBA inflation target does not require that it targets the midpoint of the range and, in any event, it commonly does not achieve inflation in the middle of its target range – as the last four years attest.

If the RBA acts, it targets a range of 2% to 3%. It does not act to achieve the mid-point. In the May 2017 statement on domestic economic conditions, the RBA considered that inflation may pick up to around 2% by early 2018.¹⁰ However, in the June statement, the RBA continued to refer to a return to the target range occurring over time:

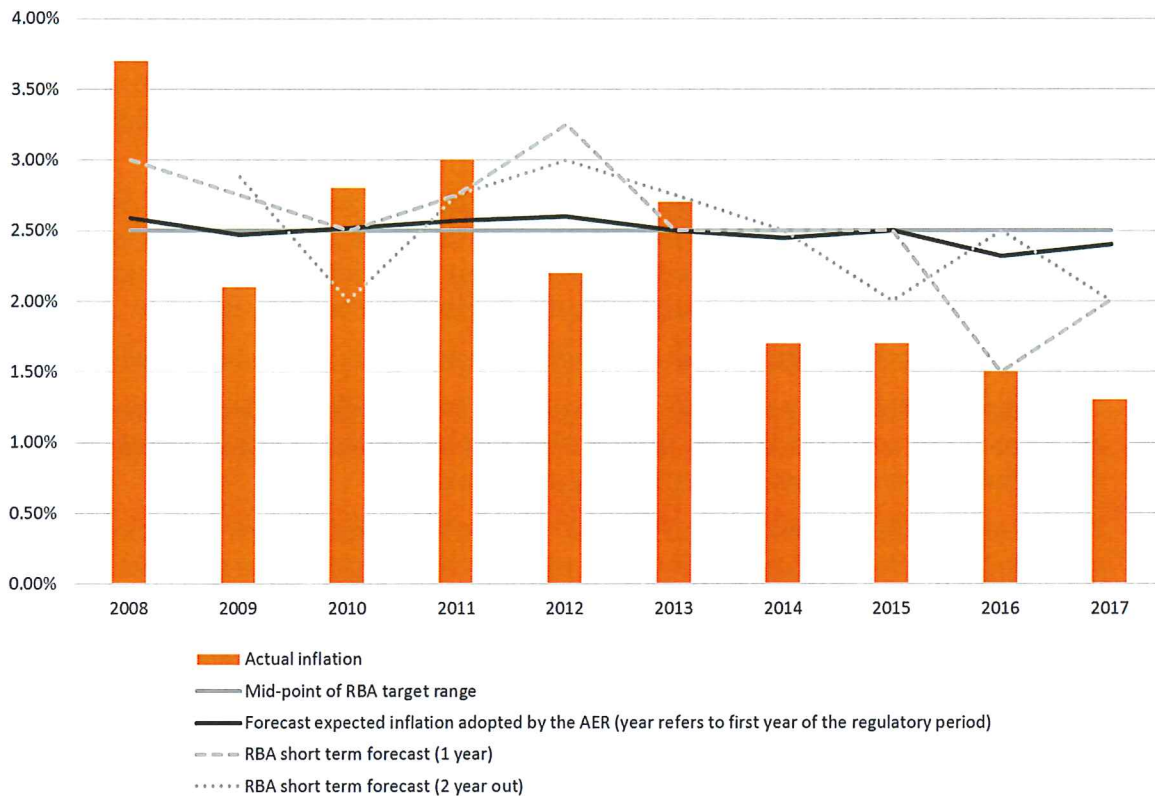
"Taking into account all the available information, including that year-ended growth in output was expected to have slowed in the March quarter, the Board judged that holding the accommodative stance of monetary policy unchanged at this meeting would be consistent with sustainable growth in the economy and achieving the inflation target over time."¹¹

¹⁰ RBA, Minutes of the Monetary Policy Meeting of the Reserve Bank Board, 6 June 2017

¹¹ RBA, Minutes of the Monetary Policy Meeting of the Reserve Bank Board, 2 May 2017.

The following chart shows the performance of the AER's forecast over time compared to actual inflation and the RBA's short-term forecast. The AER's forecast of inflation is not unsurprisingly close to the mid-point of the RBA's target range and stable. However, it varies significantly from actual inflation and the RBA's short-term inflation forecast¹².

Chart 1: Actual and forecast inflation since the inception of the AER's current method



Data Source: RBA, AER

For 2016, the RBA forecast inflation to be within a range of 1% to 2%. However, the AER's methodology resulted in a forecast of inflation of 2.32% being applied to CitiPower and Powercor for the 2016 to 2020 regulatory period. Actual inflation has been 1.5% in 2016 and 1.3% in 2017. The RBA forecast for 2018 is 2%. Therefore, inflation would have to rise significantly above 3% in 2019 and 2020 for inflation over the period to be consistent with AER's forecast of inflation for the period. For SAPN, inflation would have to reach 6% in 2019 for the average actual inflation over the 2015 to 2020 regulatory period to equal the average inflation adopted in the AER's determination. This is a material discrepancy.

2.2. Better methods for estimating expected inflation are available

Spark Infrastructure supports the break-even approach to estimating inflation outlined in the CEG Report, *Best Estimate of Expected Inflation*, provided to the AER in August 2016 in response to the AER's Draft Decision for AusNet Services¹³:

"Break-even inflation is calculated based on the difference in yields between inflation indexed Commonwealth Government Securities (CGS) and nominal CGS. This is termed 'break-even'

¹² Where a range is published by the RBA for the short term forecast, the mid-point is shown in the chart.

¹³ CEG, *Best Estimate of Expected Inflation*, August 2016, p. 12.

inflation because that is the inflation expectation at which investors expect the same nominal return from either asset. That is, it is the rate of inflation that, if it actually occurred, would leave investors' indifferent between having purchased a nominal bond versus an inflation indexed bond."

The advantages over the AER's method outlined by CEG include¹⁴:

- break-even inflation is a direct measure of inflation expectations in the same bond market that the AER uses to set the nominal rate of return on equity (i.e., the CGS market),
- break-even inflation already reflects a probability weighted average of all possible inflation outcomes as perceived by bond investors, and
- break-even inflation is available over a longer time horizon when other forecasts (such as economist forecasts) are typically only available in the short term.

The CEG Report compares the performance of the AER and the break-even method for estimating inflation. This report illustrates the poor performance of the AER's method against break-even inflation, highlights that the current low inflation is likely to continue (and will not jump up to the AER's forecast in the short term), and that adjusting for any issues and claimed biases in the break-even approach is unlikely to have a material impact. As stated in the report:

"In current circumstances the AER's estimate of inflation, in particular the assumption that investors expect inflation to average 2.5% beyond 2 years, is at odds with all of the available evidence.

Namely:

- *Break-even inflation estimates (1.7%) are well below AER forecasts (2.4%) even at a horizon of 10 years. The RBA itself is forecasting inflation out to December 2018 to be below the bottom of its target range out to the end of the RBA forecast horizon.*
- *In the current monetary policy environment, where policy rates are close to the zero lower bound, the greatest risks to inflation are to the downside. This risk is not theoretical, all western developed countries currently have monetary policy settings with policy rates close to zero and all are currently undershooting inflation targets.*
- *Expected inflation is the actuarially expected inflation (average of all possible inflation outcomes weighted by their probability). So, even if investors perceived that the most likely expected inflation was 2.5%, expected inflation would be below this once the greater downside risks were appropriately weighted.*
- *The AER's estimate of expected inflation implies that investors expect a negative real return on the risk free rate. The fact that they can achieve a positive guaranteed real risk free return simply by buying inflation indexed CGS demonstrates this is clearly not the case;*
- *Break-even inflation forecasts have been more reliable than the AER's forecasting methodology in recent years. Break-even inflation forecasts accurately predicted the recent fall in inflation below the bottom of the RBA's target range while the AER's methodology did not;*
- *An expectation that Australian inflation will jump to 2.5% at the end of the RBA forecast period is inconsistent with the fact that Australian (and global) inflation rates have been persistently below target for many years, with instances of deflation in Australia (March quarter CPI), US, Japan, the UK and the Eurozone.*
- *Falling 10-year break-even inflation is a statistically significant explanatory variable when regressed against nominal CGS yields – suggesting that most of the recent fall in nominal CGS yields is due to falling inflation expectations (not falling required real returns as implicitly assumed by the AER).*

¹⁴ CEG, Best Estimate of Expected Inflation, August 2016, p. 12.

The AER has raised potential sources of bias in the use of break-even inflation. We have reviewed the relevant literature relied on by the AER (and more widely). The overwhelming conclusion of this literature survey is that the potential sources of bias alluded to by the AER are small and, in any event, are just as likely to result in an over-estimate of expected inflation as an underestimate. Certainly, it is not plausible that these account for the current around 70bp difference between break-even inflation and the AER's estimate of expected inflation.

In any event, the sources of potential bias in break-even inflation identified by the AER actually imply that the nominal CGS yield is a biased proxy for the risk free rate. If these sources of bias did exist to the extent claimed by the AER then the appropriate course of action would be to adopt the indexed CGS yield as the real risk free rate proxy.”¹⁵

An important reason for current low break-even inflation rates is asymmetry in possible outcomes created by the current RBA cash-rate being close to zero. Central banks can always raise interest rates to slow the economy and reduce inflation if inflation gets too high. However, as short-term interest rates approach zero, central banks lose the power to lower interest rates. In a low inflation environment, lowering policy rates below current levels of 1.5% may have little effect or, even negative effects on inflation. This is because interest rates are already so low that investors and consumers decisions are not sensitive to further reductions. Moreover, very low interest rates may create risks, in terms of asset price bubbles that magnify the risk of recession and make it more likely (rather than less) to fall in to a Japan style low inflation trap.

Energy Networks Australia (ENA) has commissioned Cambridge Economic Policy Associates (CEPA) to provide a comprehensive report reviewing alternative methods for estimating inflation which includes consideration of the purpose of the forecast and experience in other jurisdictions. Our understanding is that this report also supports the break-even method for forecasting inflation.

In any event, Spark Infrastructure sees no reason why the AER should continue to adopt an approach to estimating inflation that has performed so poorly when better performing approaches are available.

3. The regulatory framework must be changed to correct the error in the operation of the PTRM and RFM to properly compensate NSPs for the AER's estimate of efficient costs

Adopting the best estimate is not sufficient in isolation to ensure NSPs have an opportunity to recover the efficient costs allowed by the AER. Nor will it ensure that customers pay no more or less than the allowed efficient costs. Regardless of how much the method for estimating inflation is improved or how accurate the estimate is, on average, the estimate is most certainly going to be wrong for any given decision. The accuracy of the estimate may reduce the consequence of actual inflation being different to forecast (because it may be closer to actual inflation) but it will not reduce the likelihood of the forecast being wrong.

The regulatory framework must be changed to correct the error in the operation of the PTRM and RFM to properly compensate NSPs for the AER's estimate of efficient costs and ensure that customers pay no more or less than the allowed efficient costs simply as a result of a mis-match between the AER's forecast and actual inflation.

3.1. Correct compensation for efficient costs

Spark Infrastructure supports the AER's approach to estimating the efficient cost of debt in nominal terms and the efficient return on equity in real terms. The change to the regulatory framework should recognise that efficient debt costs are estimated on the basis of 60% of the RAB and recognise the interrelationship between the return on debt and the return on equity¹⁶. When the AER set a nominal cost of debt benchmark in order to provide compensation consistent with the costs of issuing 10 year debt on a trailing average basis, the AER

¹⁵ CEG, Best Estimate of Expected Inflation, August 2016, p. 1.

¹⁶ As required by NER 6.5.2(k)(2)

failed to make the consequential change to the treatment of inflation that would give effect to this objective. This now needs to be corrected.

In practical terms, this is not a market risk issue but rather a mechanical issue in the operation and interaction of two regulatory models (ie. the PTRM and RFM).

To not correct for this issue would give rise to the risk that variations in compensation due to variations in inflation do not match the variation in costs due to the variation in inflation. The consequence is that this risk is borne by both investors and customers. When inflation is higher than the AER forecast, a NSP receives revenue higher than that required to cover the efficient cost of debt resulting in a higher return on equity being paid for by customers. Whereas when inflation is lower than the AER forecast, a NSP receives revenue lower than that required to cover the efficient cost of debt resulting in a lower return on equity being borne by shareholders. Under this outcome, customers may pay less. However, incentives to maintain returns may impact on efficient levels of investment so that service levels are affected.

This means that even if a NSP incurs costs exactly as the AER forecast for operating expenditure, capital expenditure, tax and debt, the NSP will realise a higher or lower real return on equity than allowed, and customers will pay more or less than the efficient costs, simply because of movements in inflation that differ to the AER's forecast of inflation. Neither NSPs or customers can control the AER's forecast of inflation under the current methodology or actual inflation. Nor can they manage the risk of a mis-match between the AER's forecast and actual inflation. Even if products were available to manage these risks, they would add to the efficient cost of providing services.

There is no justification for the risk associated with a mis-match between the AER's forecast and actual inflation to be borne by customers or investors under a trailing average cost of debt. The potential for inflation to diverge from expected levels is not under the control of the business or customers and exposing these stakeholders to this risk serves no useful purpose.

3.2. Required changes to the regulatory framework

This error can be corrected so that nominal compensation matches the AER's nominal cost of debt benchmark. This correction could be implemented in many ways, including:

- by amending revenues within the regulatory period by an amount equal to the difference between expected and actual inflation multiplied by 60% of the opening RAB;
- in the RAB RFM – using 60% weight to PTRM expected inflation and only 40% weight to actual inflation.

If applied correctly, the change would leave the real (after inflation) delivered return on equity independent of whether actual inflation deviated from expected inflation consistent with the AER's approach to estimating efficient costs.

Under the first approach, adjustments to revenue could occur on an annual basis or occur at the commencement of each subsequent period to enable any required adjustments to be smoothed over the period. The adjustment would require the inflation used in the PTRM to be 60% of actual inflation calculated at the same time as the annual adjustment to debt costs or at the conclusion of the regulatory period. An adjustment that could occur at the conclusion of the regulatory period would result in less volatility.

Under the second approach, the AER would leave the operation of the PTRM unchanged, but would apply the same inflation as used in the PTRM to the debt component of RAB in the RFM. If the forecast inflation is applied to the debt proportion of the RAB, the inflation deduction from revenues determined in the PTRM would be identical to the inflation addition to the RAB in the RFM. This would result in the delivered nominal cost of debt compensation always being the same as the nominal cost of debt used as an input to the PTRM.

Spark Infrastructure supports an adjustment to revenues each year to be applied at the same time and through the same process as the annual adjustment for debt costs. This would retain a correct link to the cost of debt.

If left unchanged, the current low inflation environment customers will continue to pay less than the efficient costs of debt and therefore, NSPs will continue to be unable to earn the allowed return on equity. However, customers will pay more than the efficient cost of debt when inflation recovers above the AER's estimate resulting in customers funding higher than allowed return on equity as determined by the AER.

Spark Infrastructure notes that making a change to the method or approach will remove any future upside as a result of inflation being above the AER's forecast. However, Spark Infrastructure rejects retaining that upside on the basis that the NSP's and customers should not be compensated/pay more (or less) than efficient costs.

In the same way that an NSP must be provided an opportunity to recover the efficient cost of providing services, customers should not pay more than the allowed efficient costs. Importantly, lower returns for investors will reduce incentives to undertake otherwise efficient investment which may impact on service levels.

Further, it would be unreasonable, and have potential impacts on the level and cost of investment, service levels and sustainable provision of services, if any change is not immediately implemented but rather only implemented sometime in the future when inflation is more likely to be above the AER's forecast.

4. A transition is required to maintain incentives for efficient investment

The error in the operation of the models is having an effect on the incentives for efficient investment in the current regulatory period. Therefore, it is critical that the approach to correcting the error takes into account the impact on the current regulatory period for many NSPs. The revenue to be provided for each NSP in the current regulatory period was determined to provide an opportunity to recover efficient costs. This includes operating expenditure, tax and a return on capital. However, if the return on capital being achieved is significantly lower due to the error in the operation of the PTRM and RFM, there are strong incentives to under-invest such that investment is inefficiently lower than it should be. If there is no prospect of the error being corrected in the current regulatory period, then inefficiently low expenditure is likely to continue for the remainder of the regulatory period.

The impact on efficient investment has been recognised by the AER to distort intertemporal investment and consumption decisions resulting in dynamic inefficiency. In particular, the AER recognised that a return on debt allowance below the expected return on debt might result in under-investment.¹⁷

Spark Infrastructure recognises that implementing an annual adjustment to revenue during the current regulatory period may be difficult to implement. Therefore, it is recommended that a transition occur which enables the adjustment for the current regulatory period to occur in the next regulatory period. This could be achieved by providing an adjustment to revenue in the subsequent regulatory period for the difference between the forecast efficient debt costs adopting the AER's forecast of expected inflation for the period and the efficient debt costs that would have been calculated if the actual inflation had applied. The recovery of this revenue could then be smoothed over the next five years. Providing a clear signal that the error will be corrected for the current period will minimise the consequences of the error in the current period. The present value of compensation would be the same as amending annual revenues or adjusting the RAB.

Providing certainty that the mis-match in compensation will be corrected will reinvigorate incentives to undertake efficient levels of investment and provide an opportunity for NSPs to immediately address any under investment that may have occurred during the regulatory period to date. This will ensure that service levels can be maintained and sustained in to the future and forecast investment in the next regulatory period does not need to contain investment deferred from the current regulatory period.

Maintaining the incentives for efficient investment during a regulatory period is consistent with the AER's Better Regulation reform program and guidelines.

¹⁷ AER, Better Regulation Explanatory Statement, Rate of Return Guideline, December 2013, Explanatory Statement, p. 109.

5. Implications for other elements of the SL CAPM

A further issue raised by the AER in the Discussion Paper is the potential implications of any change on equity beta, credit ratings and debt ratios. NSPs and investors are comfortable with exposure to inflation – this is unchanged. The issue being addressed is to correct a mechanical error in the operation of the models and to get a better estimate of inflation in the first instance.

Correcting the interaction of the PTRM and RFM and improving the method for forecasting expected inflation will not lower the equity beta, increase credit ratings or reduce debt ratios.

On the contrary, inaction by the AER to address an identified problem may be perceived as contributing to a more uncertain, less stable regulatory environment which could have detrimental effects on credit ratings and the returns expected by equity holders. This would increase the cost of capital and therefore prices to customers.

The credit ratings and debt ratios achieved historically have been achieved in an environment where there was not significant and continued mis-estimation of inflation. Further:

- The equity beta is unaffected because there is no basis to believe that the AER mis-estimating inflation is a systematic risk. If there was an impact, it would show up in benchmarked equity betas in the future. Adjusting benchmarks in advance of an assumed positive or negative impact would undermine the credibility of the benchmark and the use of a benchmark
- Credit ratings are also benchmarked. Again, adjusting benchmarks in advance of an assumed positive or negative impact would undermine the credibility of the benchmark and the use of a benchmark
- Providing an opportunity to recover efficient costs as required by the NER will not change the efficient debt ratio of the benchmarked NSP as the benchmarked NSP is already assumed to have an opportunity to recover its efficient costs.

