

Memo

To: Jeremy Cain, Transpower New Zealand

From: Stephen Gray, Dinesh Kumareswaran

Date: 26 October 2016

Subject: **Issues arising from Commerce Commission WACC Workshop**

1 Overview

1 At the Commerce Commission's (Commission's) WACC Workshop, held on 7 September 2016, the Commission noted that parties had not commented specifically on the analysis that Dr Lally had set out in an appendix to a recent report that he had provided to the Commission (the Lally appendix).¹

2 Given the Commission's interest in this matter, we have been asked by Transpower to consider the analysis in the Lally appendix and to set out our own views on the validity and relevance of the conclusions therein.

3 Our main findings in relation to the Lally appendix are the following:

- a. The Lally appendix analyses only the violation of the NPV=0 principle in respect of new investments and ignores the effect of violation of the NPV=0 principle in respect of existing investments already reflected in the supplier's RAB:
 - i. In respect of existing investments, the trailing average approach is NPV neutral because the regulatory allowance always matches the efficient cost of debt.
 - ii. By contrast, the rate on the day approach violates the NPV=0 principle, due to mismatches between the allowed and efficient debt risk premium (DRP). Based on assumptions that are largely consistent with those employed in the Lally appendix, the value of this violation amounts to approximately 1.8% of the RAB over just one regulatory period.
 - iii. Given the forecast value of Transpower's RAB over RCP2, the violation of the NPV=0 created by the rate on the day

¹ Lally, M., 2016, *Review of further WACC issues*, 22 May.

approach would be worth approximately \$86 million in present value terms, which is very large.

- b. New investments are worth only a fraction of suppliers' RABs. For instance, the average value of investments that Transpower expects to make over RCP2 is approximately only 1.5% of its forecast RAB over the same period. This means that the value of any violation of the NPV=0 principle in respect of new investments is negligibly small (i.e., \$1.4 million in present value terms) compared to the value of a violation in relation to existing investments.
- c. Moreover, in relation to new investments made during a regulatory period, the difference in the value of NPV=0 violations that arise under the rate on the day and trailing average approaches is extremely small, tending to be in the order of 20 basis points. Because (a) this difference is small, and (b) it is applied to new capital expenditure, which is small relative to the existing RAB, any resulting NPV=0 violation is immaterial compared to the \$86 million violation in relation to the existing RAB.
- d. This supports a key point that we made in our August 2016 report: when suppliers are contemplating an efficient, long-lived investment, the most relevant consideration is whether, over the investment horizon, regulated revenues generated by that asset will be adequate to cover the investment cost.² In other words, once the investment has been rolled into the RAB, will the present value of regulated revenues be sufficient to just cover the present value of the efficient costs? The trailing average approach will ensure this. Whether or not the regulatory allowance at the time the investment is made matches the prevailing rate is a marginal consideration that would have little influence over whether the new investment should proceed.
- e. The Lally appendix considers only violations of NPV=0 in relation to the DRP. However, the value of violations that occur in relation to the risk-free rate can be larger than violations in relation to the DRP. The risk of violations in relation to the risk-free rate is minimised under the trailing average approach.
- f. The key conclusion in the Lally appendix (i.e., that the rate on the day approach creates better incentives for efficient investment than does the trailing average approach) are due to the particular erroneous assumptions embedded within the analysis, which we describe above. As we show in this note, adoption of more appropriate assumptions reverses the conclusions of the Lally

² Frontier Economics, Response to cost of capital issues raised in Draft Input Methodologies, August 2016, section 3.1.

appendix completely. The trailing average approach is unambiguously preferable to the rate on the day approach.

4 We also comment briefly on two issues, related to the benefits of the trailing average approach for consumers, which were raised by Commissioners during the Workshop.

2 Incentives for efficient investment and the NPV=0 principle

2.1 Overview

5 In this section we consider how the rate on the day approach and the trailing average approach for the return on debt may affect the incentive for efficient investment and the NPV=0 principle.³

6 The Lally appendix evaluates investment incentives by quantifying potential violations of the NPV=0 principle.⁴ The idea is that if the regulatory allowance is too high (i.e., if $NPV > 0$) it may create an incentive for suppliers to engage in inefficient over-investment, and if the regulatory allowance is too low (i.e., $NPV < 0$) it may create an incentive for suppliers to under-invest.

7 The approach taken in the Lally appendix is to compare the present value of the regulatory allowance under different approaches (i.e., versions of the rate on the day approach and the trailing average approach) against the present value of the cost that a supplier following an efficient debt management strategy would incur.⁵

8 The Lally appendix finds that both approaches give rise to violations of NPV=0, but that the violations under the rate on the day approach are somewhat smaller than the violations under the trailing average approach.

9 The Lally appendix makes two key assumptions to which the conclusions derived are sensitive:

- a. It is relevant to consider NPV violations only in relation to individual new investments. In doing so, the Lally appendix ignores the fact that mismatches between the regulatory allowance and the

³ We note that the issues discussed here relate to discretionary capex and not routine maintenance type capex that is required to maintain system reliability. At issue is whether the approach that the Commission takes to the cost of debt allowance affects a supplier's choice of whether or not to undertake (or delay) efficient new capital expenditure.

⁴ Lally, M., 2016, Review of further WACC issues, 22 May.

⁵ Rates are assumed to follow a process of mean-reversion, and this mean-reversion process is calibrated using US data. In order to expose the 'full' scope for violation of the NPV=0 principle, the starting point from which rates are assumed to mean-revert is selected to be a large number—i.e., the 95th percentile of the historical DRP.

efficient cost of debt apply to existing assets, reflected in the overall RAB, and not just to individual investments.

- b. An efficient supplier can use swaps to hedge against mismatches in relation to the risk-free rate, but cannot hedge against mismatches in relation to the DRP. As a result, the Lally appendix focuses only on assessing the scope for violations in respect of the DRP and assumes away violations in relation to the risk-free rate.

10 We demonstrate that relaxing each of these assumptions changes the conclusions of the Lally appendix materially, and in favour of the trailing average approach.

2.2 Impact of violations in relation to the overall RAB

2.2.1 Consideration of new investments only

11 The Lally appendix focuses exclusively on analysing the scope for NPV violations in relation to a single new investment, and concludes that for a new investment made right at the beginning of a new regulatory period:

- a. The rate on the day approach results in a NPV=0 violation amounting to -0.4% of the initial value of the new investment (Scenario 1); and
- b. The trailing average approach results in a NPV=0 violation amounting to -1.9% of the initial value of the new investment (Scenario 4).

12 To put these magnitudes into perspective, Table 1 reports the value of new investments that Transpower forecasts that it will make over RCP2. The average annual expenditure over the period is expected be approximately \$73 million.

Table 1: Transpower RAB and forecast new investment over RCP2 (\$, million)

	2015/16	2016/17	2017/18	2018/19	2019/20	Average
RAB	4,610.20	4,708.60	4,783.80	4,831.60	4,861.10	4,759.06
New capex*	39.78	61.13	95.73	67.25	101.56	73.09
New capex as % of RAB	0.9%	1.3%	2.0%	1.4%	2.1%	1.5%

Source: Commerce Commission, Companion paper to final determination of Transpower's individual price-quality path for 2015-2020, 28 November 2016, Table 2.6; Transpower business plan.

Note: * Excludes investments such as grid upgrades to relieve constraints caused by potential future closures of smelters on the basis that the need for, and timing of, these investments is still uncertain

13 This would imply the value of the NPV=0 violation in respect of the:

- a. Rate on the day approach would be approximately just $-\$300,000$;⁶ and
- b. Trailing average approach would be nearly $-\$1.4$ million.⁷

14 These sums are negligibly small, particularly when compared to Transpower's forecast RAB over RCP2, as reported in Table 1.

15 Even if the new capex is considered cumulatively (as would be the case if it related to a single project that was expected to take five years to complete), the NPV=0 violations are very small relative to the violations in relation to the existing RAB that we examine in the following section.

2.2.2 Consideration of all existing assets

16 By focussing on new assets only, the Lally appendix ignores the fact that:

- a. the supplier contemplating the new investment already has in place a RAB comprising past investments on which it must earn a return on capital;
- b. existing assets will have been financed by an efficient supplier using a staggered debt portfolio, which will have DRP commensurate with a historical trailing average DRP; and
- c. mismatches between the allowed cost of debt and the efficient cost of debt will result in a return on capital that is either too high or too low relative to the efficient level.

17 By omitting these considerations from the analysis, the Lally appendix provides a distorted picture of the true cost associated with the rate on the day approach. A proper analysis of investment incentives should consider not just the effect of NPV=0 violations in relation to individual investments, but violations that pertain to all existing assets as well.

18 In order to do this, we note that Scenarios 3 and 4 of the Lally appendix assume that at the start of the regulatory period:

- a. the prevailing DRP is 3.2%; and
- b. the trailing average DRP (associated with 10-year staggered issuance of debt) is 1.44%.

19 Under the rate on the day approach (with no annual updating), the supplier would receive a fixed return on debt allowance of 3.2% for the duration of the regulatory period, but the supplier's staggered debt portfolio would have a 10-year trailing average DRP. Under such an approach, the present value of the expected

⁶ $-0.4\% \times \$73.09 \text{ million} = -\0.3 million.

⁷ $-1.90\% \times \$73.09 \text{ million} = -\1.39 million

deviations between the allowed DRP and the efficient DRP, over just the first regulatory period, would be:⁸

$$NPV_0 = .4V_0(1-.28) \left[\frac{.032-.0144}{1.06} + \frac{.032-.0162}{1.06^2} + \frac{.032-.0176}{1.06^3} + \frac{.032-.0188}{1.06^4} + \frac{.032-.0198}{1.06^5} \right] = .018V_0.$$

20 In this context the term V_0 should be interpreted as the RAB of the supplier rather than the initial cost of an individual investment, because the staggered debt portfolio at the start of the regulatory period relates to funding of the supplier's entire asset base.

21 This result suggests that the magnitude of the NPV=0 violation (caused by the prevailing DRP exceeding the trailing average DRP) would be approximately 1.8% of the RAB. This will typically be a very large value.

22 For example, as Table 1 shows, Transpower's RAB is forecast to be \$4,759.06 million (on average) over RCP2. This implies that for a supplier of Transpower's size, the violation of the NPV=0 principle under the rate on the day approach would result in over-compensation of the supplier by approximately \$86 million.⁹ This is a very material sum, which dwarfs the value of violations in respect of individual new investments, as described above in paragraph 13.

23 By contrast, the trailing average approach results in no violation of the NPV=0 principle in respect of existing assets, financed using an existing staggered debt portfolio. This is because under the trailing average approach, the allowed DRP always matches the efficient DRP. This, in turn, means that the numerator values in the square-bracketed term in the equation above will all be zero, and the expected NPV of the cash flows will simply equal the RAB.

24 In other words, the trailing average approach will be strictly preferable to the rate on the day approach in respect of existing assets.

25 This analysis underscores a critical point made in section 3.1 of our August 2016 report: the trailing average approach enhances rather than blunts signals for efficient investment. This is because under the trailing average approach, a supplier that follows an efficient debt management strategy can be confident that once new investments have been rolled into the RAB, the efficient DRP it incurs at any point in the future will be matched by the allowed DRP. In other words, the conditions

⁸ For simplicity, we assume that the 10-year trailing average DRP was 1.44% for each of the 10 years leading up to the regulatory period. Using this simplifying assumption: the trailing average DRP for Year 2 is calculated by giving 90% weight to the trailing average DRP of 1.44% and 10% weight to the prevailing DRP in Year 2; the trailing average DRP for Year 3 is calculated by giving 80% weight to the trailing average DRP of 1.44%, 10% weight to the prevailing average DRP in Year 2 and 10% weight to the prevailing average DRP in Year 3; and so on.

⁹ 1.8% × \$4,759.06 million = \$86 million.

for efficient new investment will be met and therefore these investments will proceed.

- 26 By contrast, under the rate on the day approach the DRP allowance may exceed or fall below the efficient DRP commensurate with a staggered debt management approach in any given regulatory period. This could blunt the signals for efficient investment in that period.

2.3 Violations of the NPV=0 principle in respect of the risk-free rate and the DRP

2.3.1 Rate on the day

- 27 The Lally appendix assumes that an efficient supplier will use swaps to eliminate mismatches between the allowed risk-free rate and the base rate of the cost of debt it actually incurs, but is unable to hedge similarly against mismatches in relation to the DRP. As a result, the Lally appendix focuses only on assessing the scope for violations in respect of the DRP and assumes away violations in relation to the risk-free rate.

- 28 This an unrealistic assumption because, in practice, the new investment may occur some years into the regulatory period. At that point, the investment would be financed not at the base rate that may have been locked in at the start of the period using swaps, but at the base rate prevailing when the investment is made at some point into the period.

- 29 The only way the supplier would be able to match the base rate of future borrowing costs to the risk-free rate allowance is through the use of a forward starting swap. However forward starting swaps:

- a. are typically expensive hedging instruments; and
- b. may only be used in this way if the precise timing of the investment is known, which is unlikely to be the case in all instances.

- 30 Therefore, it is not appropriate to exclude from the analysis the NPV=0 violation in respect of the risk-free rate.

Risk-free rate

- 31 We consider the scenario in which the regulator sets the allowed return on debt using the rate on the day approach and the service provider issues staggered maturity floating rate debt and uses interest rate swaps to fix rates at the beginning of every regulatory period. This pertains to Scenario 1 in the Lally appendix for the case of capex at the beginning of a regulatory period and to Scenario 7 for capex mid-way through a regulatory period.

- 32 In this case, the debt for the new investment is raised at the time the investment is made. Floating rate debt is issued at the rate on the day in several tranches with staggered maturities, per the assumption in the Lally appendix. Interest rate swaps

are then used to fix any floating rates to the end of the regulatory period. This is the financing assumption that underlies the calculations in the Lally appendix.

- 33 This immediately causes a violation of the NPV=0 principle because:
- a. The regulatory allowance was set based on the rate at the beginning of the regulatory period; whereas
 - b. The new asset was financed at the prevailing rate when the expenditure was made.

34 Suppose the new investment were required at the end of Year 2 of the regulatory period and base risk-free rates had fallen (or risen) by 2% over that period, as has occurred in recent years.¹⁰ This mismatch would persist until the end of the regulatory period at which point rates would be reset and there would be a match from that point forward. Using the approach of the Lally appendix, the quantum of this mismatch is:

$$NPV_0 = .4V_0(1 - .28) \left[\frac{.03 - .05}{1.06^3} + \frac{.03 - .05}{1.06^4} + \frac{.03 - .05}{1.06^5} \right] = -.014V_0.$$

35 That is, the violation of the NPV=0 principle amounts to -1.4% of the value of the new asset. The Lally appendix does not consider any such mismatch on the risk-free rate and focuses only on the mismatch in relation to the DRP (discussed below).

36 If the new investment had arisen at a different time during the regulatory period, there are two offsetting effects. For example, if the investment occurs earlier in the period, there is less time for rates to change away from the regulatory allowance, but any difference has an effect for a longer time (until the end of the regulatory period). If the investment occurs later in the period, the prevailing rate would have had longer to deviate materially from the rate at the start of the period, but the difference will endure for a shorter period of time.

Debt risk premium

37 In addition to a mismatch on the base risk-free rate, there is also a mismatch in relation to the DRP. The allowed DRP is set at the beginning of the regulatory period, whereas the actual DRP is set at the time the financing is entered into. For the DRP, there are pre-investment and post-investment effects.

38 The post-investment mismatch occurs because the allowed DRP is only reset every five years, whereas the actual cost changes every year as debt is refinanced on the staggered maturity basis. The Lally appendix seeks to quantify the size of this post-financing DRP mismatch via a model in which the DRP reverts to its long-run mean over time. This model is based on a number of parameters and assumptions. For the purposes of assessing the validity of the conclusions in the Lally appendix,

¹⁰ For the purposes of this example, we assume that at the start of the regulatory period the base risk-free rate was 3% but by the end of Year 2 it had increased to 5%.

we have adopted those same assumptions and have replicated the figures in the Lally appendix for the post-financing DRP mismatch (Scenario 1).

39 There is also a pre-financing mismatch that arises when the DRP has changed between the beginning of the regulatory period and the point at which the new investment is financed. For example, the Lally appendix considers the case where the allowed DRP is 1.6% and where the DRP has increased to 3.2% at the time of the new investment (Scenario 7). We examine a case where the new investment occurs at the end of the second year of the regulatory period. In this case, the present value of the mismatch is -1.6% of the value of the new investment.

40 That is, when we assume that the new asset is financed at the beginning of the regulatory period, the DRP mismatch is -0.004 (per Scenario 1 in the Lally appendix). However, if we change the timing of the new investment to two years into the regulatory period, the DRP mismatch is -0.016.

41 In summary, there are three sources of mismatch between the actual efficient cost of debt and the regulatory allowance that cause a violation of the NPV=0 principle:

- a. The base rate may have changed between the beginning of the regulatory period and the time the new investment is financed;
- b. The DRP may have changed between the beginning of the regulatory period and the time the new investment is financed; and
- c. The DRP that the service provider incurs changes every year as debt is refinanced, whereas the allowed DRP is updated only every 5 years.

42 The Lally appendix does not consider the first component, which as we have shown above, can be of similar magnitude to the combined effect of the mismatch arising from the DRP component (i.e., the second and third components above).

2.3.2 Trailing average

43 The second scenario that we consider is one in which the regulator sets the allowed return on debt using the trailing average approach and the service provider issues staggered maturity fixed rate debt to finance the new investment. In the Lally appendix, this pertains to Scenario 4 for the case of capex at the beginning of the regulatory period and to Scenario 6 for capex midway through a regulatory period.

44 In this case, the debt for the new investment is raised at the time the investment is made. The Lally appendix assumes that fixed rate debt would be issued at the rate on the day in several tranches with staggered maturities. Specifically, 10% of the debt would be issued with a one-year term, 10% with a two-year term, and so on.

Risk-free rate

45 We first note that there is a potential mismatch that occurs due to the fact that the risk-free rate will be set according to the historical trailing average, but the actual cost of debt will be set on the day the financing occurs. This mismatch will continue for 10 years, at which time all of the debt will have been refinanced in

accordance with the trailing average allowance and there will be no mismatch thereafter.

46 To gauge the potential size of this mismatch, we consider the same scenario that we applied to the rate on the day analysis above – where the trailing average risk-free rate was 3% at the beginning of the regulatory period, increases to 5% at the start of the regulatory period, and then remains at 5% thereafter. We consider the case where a new investment is made after two years of the regulatory period, also commensurate with the corresponding example for the rate on the day approach above. The mismatch in this case is -1.2% of the value of the new investment, which is less than the corresponding -1.4% figure for the rate on the day approach.

47 In both cases, the differential between the allowed return and the spot rate at the beginning of the regulatory period is 2%. The magnitude of the mismatch is lower for the trailing average approach because the allowed return increases each year as the higher 5% figure receives progressively more weight. By contrast, under the rate on the day approach, the mismatch is maintained until the regulatory period ends and rates are reset.

Debt risk premium

48 In relation to the DRP, the Lally appendix considers a 95th percentile case where the contemporaneous DRP is 3.2% at the time the new investment is made and then evolves according to the assumed model of mean-reversion, and where the allowed DRP is 1.6% at the beginning of the regulatory period (Lally Scenario 7). This is the same scenario that we used in our rate on the day analysis above. That is, we assume that the DRP was 1.6% for each of the 10 years prior to the current regulatory period, rises to 3.2% at the time of the new investment in Year 2, and then evolves according to the Lally mean reversion model. To further match the rate on the day example above, we consider the case where the new investment is made two years into a regulatory period.

49 In this case, there is a mismatch because the actual cost is based on the contemporaneous DRP whereas the regulatory allowance is based on the trailing average. The quantum of mismatch is -1.4% of the value of the new asset, which is lower than a quantum of -1.6% for the corresponding scenario under the rate on the day approach above. Under the trailing average approach, the allowed DRP is updated each year during the regulatory period, resulting in a slightly lower mismatch than when the rate on the day approach is applied to the same scenario.

2.3.3 Comparison of mismatches

50 In Table 2 below, we summarise the magnitude of the mismatch between the efficient cost and the regulatory allowance for a new project that begins two years into a regulatory period. The percentages are to be interpreted as the proportion of the value of the project in question. So, for a project costing \$100 million, a violation of 1.6% would be worth \$1.6 million in present value dollar terms.

51 As set out above, the figures are derived in accordance with the model and scenarios set out in the Lally appendix.

Issues arising from Commerce Commission WACC Workshop

Table 2: Comparison of violations of the NPV=0 principle

Component	Rate on the day	Trailing average
Base risk-free rate	1.4%	1.2%
Debt risk premium	1.6%	1.4%

Source: Frontier calculations.

52 Table 2 shows that the extent of any mismatch is very small. Moreover, what is relevant is the *difference* between the two approaches. The Table shows that both approaches involve NPV=0 violations in relation to new investments, but that the difference in these violations is in the order of only 20 basis points for each of the risk-free rate and DRP components. This is insignificant relative to the magnitude of the NPV=0 violation that occurs when the rate on the day approach is applied to the existing RAB.

53 We also note that in the scenarios set out above, which are drawn from the Lally appendix, the NPV=0 violations are smaller under the trailing average approach. This occurs because, under the trailing average approach, the allowed return increases each year as the prevailing rate receives progressively more weight. By contrast, under the rate on the day approach, the mismatch is maintained until the regulatory period ends and rates are reset.

2.4 Conclusions

54 For the reasons set out above, our conclusion is that:

- a. The analysis of mismatches and violation of the NPV=0 principle in relation to individual investments would be a marginal consideration that would have negligible impact on a service provider's consideration of whether or not to proceed with a proposed new capital investment.
- b. However, the NPV=0 violation that arises under the rate on the day, in respect of all existing assets, can be very large. No such violations arise under the trailing average approach because the regulatory allowance will always align with the efficient cost of debt. As such, the trailing average approach is more likely to promote efficient investment than would the rate on the day approach.
- c. The examples in the Lally appendix consider only violations of NPV=0 in relation to the DRP. However, the violations that occur in relation to the base risk-free rate can have a larger magnitude and this risk is minimised under the trailing average approach.
- d. To the extent that the analysis of mismatches is relevant, it favours the trailing average approach.

3 Further issues raised at WACC workshop

In this section we address two additional matters raised by Commissioners during the Workshop.

3.1 Risks to consumers under the rate on the day approach

55 Dr Lally has advised the Commission, under the rate on the day approach, the prudent debt management approach for regulated suppliers in New Zealand is to issue floating rate debt on a staggered maturity basis and to use interest rate swaps to fix the base rate component at the beginning of each regulatory period.¹¹

56 Under this approach, the supplier is able to match approximately the regulatory allowance for the base rate with the actual cost, but is exposed to mismatches in respect of the DRP.

57 During the Workshop, Commissioner Begg suggested that potential mismatches between the risk-free rate allowance under the rate on the day approach and the base rate component of the efficient cost of debt (under a staggered debt management approach) is unlikely to be of concern to the Commission because suppliers can use interest rate swaps to eliminate this mismatch.¹² Commissioner Begg noted that mismatches in respect of the DRP may be of greater concern because such mismatches cannot be eliminated using swaps.¹³

58 In our view, the potential for mismatch between the risk-free rate allowance and the base rate component of the cost of debt should be of concern to the Commission as consumers (and, in particular, small consumers) do not have access to the interest rate swaps market and therefore cannot hedge *any* component of this volatility. They remain *fully exposed* to the entirety of movements in the total required return on debt.

59 It is this full exposure to interest rate volatility that has led consumers in Australia to propose the trailing average approach.¹⁴

¹¹ This approach may be prudent but is inefficient. It is prudent because it minimises mismatch risk but it is inefficient because it differs from the strategy that would have been used in an unregulated, workably competitive market. Part 4 of the Commerce Act, which has the purpose of "...promoting outcomes that are consistent with outcomes produced in competitive markets."

¹² WACC workshop transcript, p.129.

¹³ WACC workshop transcript, p.30.

¹⁴ This point was discussed in: Frontier Economics, Response to cost of capital issues raised in Draft Input Methodologies, August 2016, section 2.2.

3.2 Consumers' motivation for arguing in favour of the trailing average approach

60 In our August 2016 report, we noted that the original proposal for a trailing average approach in Australia was led by a consumer group: the Energy Users Rule Change Committee (EURCC).¹⁵

61 During the Workshop Commissioner Gale noted that perhaps one explanation for this was because prior to 2011, when the EURCC argued for adoption of the trailing average approach, interest had been rising. Therefore, adoption of the trailing average approach would have resulted in a reduction in the cost of debt allowance (relative to the allowance under the rate on the day approach).¹⁶

62 We note that more recently, the South Australian Council of Social Services (SACOSS), a consumer interest group, has supported a move to the trailing average approach, even though that change would mean a higher regulatory allowance in the short-term:¹⁷

The appeal of the lower rate [that would have been delivered by the rate on the day approach] is obvious but SACOSS is also conscious that Global Financial Crisis (GFC) conditions could reappear at some future date and would prefer a solution that reduces volatility for both the owners and customers of SA Water.

This is an opportunity to establish a long term approach to how water users are exposed to changes in the cost of capital over time.

63 SACOSS argued for the adoption of the trailing average approach when prevailing rates were low (rather than high). Even though the adoption of the trailing average approach meant an increase in the return on debt allowance, relative to prevailing rates, SACOSS considered that this short-term disadvantage would be more than offset by the greater stability of rates under, and protection against large shocks in prices that could occur as a result of a future GFC-type event, offered by the trailing average approach.

64 This example demonstrates that the benefit to consumers of lower price volatility under the trailing average approach (vis-à-vis the rate on the day approach) is real rather than illusory.

¹⁵ Frontier Economics, Response to cost of capital issues raised in Draft Input Methodologies, August 2016, p.16.

¹⁶ WACC Workshop transcript, p.140.

¹⁷ ESCOSA, SA Water Regulatory Rate of Return 2016 – 2020: Final Report to the Treasurer, March 2015, p.31