ATTACHMENT 2:
UPDATED RATE OF RETURN AND FORECAST INFLATION VALUES

33. In our Revised AAP, we included placeholder return on debt, return on equity and resulting overall rate of return values, and a placeholder inflation forecast, based on placeholder averaging periods. We now provide the AER with updated values that reflect our actual averaging periods.

RETURN ON DEBT

34. As noted in Attachment 1, rule 87 of the NGR requires the return on debt to be estimated using the trailing average approach, without any transition from the on-the-day approach.

35. In our Revised AAP, we set out a return on debt estimate for the 2016/17 regulatory year that was based on a placeholder debt averaging period for that year and the use of the RBA curve as a placeholder data source. As our actual averaging period for 2016/17 has passed, we now provide an updated prevailing return on debt value for the 2016/17 regulatory year, as well as the corresponding proposed return on debt allowance for that year.

36. While we maintain that all available independent data sources and the average of these data sources should be tested to determine the data source and extrapolation method that best fits a representative sample of bond yields over the relevant averaging period, as noted in Attachment 1, we have not yet applied our data source selection methodology to determine the prevailing return on debt in our debt averaging period for the 2016/17 regulatory year but would be happy to do so in the event the AER proposes to accept our proposal on data source and extrapolation method in its Final Decision.

37. For the reasons outlined in Attachment 1, for the purposes of updating our return on debt values, we asked CEG to estimate the prevailing return on debt in the averaging period for 2016/17 using the simple average of each of the available independent data sources, that is, the RBA, Bloomberg and Reuters curves.[1] The resulting prevailing return on debt estimate for 2016/17 is 5.489 per cent and the overall annualised return on debt estimate for 2016/17 using a trailing average approach is 7.70 per cent. CEG's calculations and analysis are set out in the confidential spreadsheet and Memorandum dated 11 May 2016, provided as **Attachments 3 and 4**.

38. If the prevailing return on debt and overall return on debt for 2016/17 is estimated in the manner just outlined (that is, the prevailing return on debt for 2016/17 is estimated using the simple average of the RBA, Bloomberg and Reuters curves and the trailing average approach to estimating the return on debt is used), five of the defined terms in the formula for updating the trailing average return on debt set out in clause 6.1 of our revised Access Arrangement would be amended as follows (with changes from the revised Access Arrangement, which same figures appear in Box 3 on page 49 of Appendix 5.01 to our Revised AAP, shown):

$H_{2016/17}$ is ~~7.55~~7.56 per cent

$H_{2017/18}$ is ~~7.61~~7.62 per cent

[1] The approach to extrapolation used by CEG is described in footnote 2 of CEG's Memorandum.

$H_{2018/19}$ is ~~7.48~~7.49 per cent

$H_{2019/20}$ is ~~7.12~~7.13 per cent

$H_{2020/21}$ is ~~6.83~~6.84 per cent

39. We also asked CEG to update the return on debt values if, contrary to our submission that the trailing average approach ought to be adopted immediately, an optimal hedging hybrid transition is adopted, assuming that one third of the return on debt was hedged under the on-the-day approach and including an allowance for swap transaction costs.[2] If this was the case, the defined terms in the revised Access Arrangement would be amended as follows (with changes from the values set out in Box 4 on page 50 of Appendix 5.01 to our Revised AAP shown):

$H_{2016/17}$ is ~~6.87~~6.88 per cent

$H_{2017/18}$ is ~~7.00~~7.01 per cent

$H_{2018/19}$ is 6.98 per cent

$H_{2019/20}$ is ~~6.68~~6.69 per cent

$H_{2020/21}$ is ~~6.50~~ 6.51 per cent

RETURN ON EQUITY

40. The return on equity figures for both the 2015/16 year and the 2016-21 access arrangement period as set out in our Revised AAP were based on a risk free rate of 2.75 per cent determined by reference to a placeholder averaging period of the 20 business days ending 30 September 2015. The risk free rate in our actual averaging period was 2.57 per cent.

41. In our access arrangement proposal and Revised AAP, we proposed that each of the Sharpe-Lintner capital asset pricing model (**SL CAPM**), the Black capital asset pricing model, the Fama-French Three Factor Model and Dividend Growth Model be estimated and that these estimates each be given equal weight in deriving a return on equity estimate (**multi-model approach**).[3] Updating this estimate for our actual averaging period for the risk free rate leads to an estimate of the return on equity of 9.67 per cent.

42. We also outlined an alternative approach to estimating the return on equity that involves properly adjusting the SL CAPM parameters to deliver a return on equity that contributes to the achievement of the ARORO and reflects prevailing market conditions (**alternative foundation model approach**). Updating our estimate to reflect the actual average period for the risk free rate leads to an estimate of the return on equity of 9.75 per cent.

---

[2] ActewAGL Distribution proposes, and CEG has estimated the return on debt assuming, swap transaction costs of 11.5 basis points per annum for a full debt portfolio, which is based on the estimate of these costs by Chairmont for the Economic Regulation Authority (see footnote 115 of Appendix 5.01 to our Revised AAP and CEG's Memorandum on the cost of debt calculations dated 11 May 2016 at [3]-[4]).

[3] Appendix 5.01 to our Revised AAP, p. 54.

OVERALL RATE OF RETURN

43. Applying our proposed gearing ratio of 60 per cent to the return on debt for 2015/16 set out in our Revised AAP of 7.81 per cent and the updated estimates of the return on debt for 2016/17 and return on equity set out above leads to:

    43.1 a rate of return for 2015/16 of 8.55 per cent if the multi-model approach is used to estimate the return on equity, and 8.59 per cent if the alternative foundation model approach is used; and

    43.2 a rate of return for 2016/17 (which is also a placeholder rate of return for the remainder of the 2016/21 access arrangement period) of 8.49 per cent if the multi-model approach is used to estimate the return on equity, and 8.52 per cent if the alternative foundation model approach is used.

FORECAST INFLATION

44. In our Revised AAP, we set out an inflation forecast for the 2015/16 year and 2016/17 to 2020/21 access arrangement period based on an application of the Fisher equation method (or 'breakeven inflation' method) as recommended by CEG over the 20 business days to 30 September 2015.

45. CEG has updated our inflation forecast for our actual averaging period for the risk free rate, in the report titled '*Update to nominal risk free rate and expected inflation*' of May 2016, provided as **Attachment 5**. Updating the inflation forecast is consistent with prior CEG advice that the inflation forecast needs to be consistent with the implied forecast of inflation in the nominal rate of return, in particular by measuring the inflation forecast in the same averaging period as the risk free rate / cost of equity.[4]

46. The updated inflation forecast for the 2015-21 period is 1.96 per cent. This is materially lower than the AER's forecast in the Draft Decision of 2.5 per cent and CEG's prior forecast (for the September 2015 placeholder averaging period) of 2.19 per cent.

47. As noted in our Revised AAP, recent market evidence demonstrates that Australia is currently experiencing persistently low inflation and the AER's forecasting methodology is currently overestimating inflation. CEG observes in the annexed report that:[5]

    47.1 arithmetic average annual inflation has been 1.9 per cent in the nearly five year period beginning 1 July 2011;

    47.2 this low inflation trend has intensified in the inflation data for the two most recent quarters (released since CEG's forecast of January 2016), with a 0.37 per cent annualised inflation rate for the last half year which is well below the bottom end of the RBA's target range (2 to 3 per cent);

---

[4] CEG, *Measuring expected inflation for the PTRM*, June 2015 (Appendix 5.01.57 of Response to the AER's draft decision, February 2016) at [67]-[74], [83].

[5] CEG, *Update to nominal risk free rate and expected inflation*, May 2016 at [5]-[7].

47.3 the AER's forecasting methodology is fairly consistently overestimating inflation, with the AER methodology overestimating the actual inflation outcome in the year to March 2016 by 1.45 per cent (2.75 per cent compared to the actual inflation outcome of 1.3 per cent); and

47.4 on 5 May 2016, the RBA released its May 2016 Statement of Monetary Policy (**SoMP**) which included a dramatic reduction in the range for forecast inflation (from 2 to 3 per cent to 1.5 to 2.5 per cent).

48. By contrast, CEG's methodology only underestimates the actual inflation outcome over the year to March 2016 by 0.37%.

49. In the annexed report, CEG demonstrates that the very low and negative inflation in the December 2015 and March 2016 quarters respectively have been accompanied by a fall in inflation expectations and an associated fall in the risk free rate.[6] The fall in our updated inflation forecast (1.96 per cent) relative to CEG's prior forecast (2.19 per cent) is explicable by this fall in market inflation expectations in the period elapsing between submission of our Revised AAP and our averaging period for the risk free rate.

50. Finally, CEG demonstrates that the AER's inflation forecasting methodology can be expected to overestimate inflation for the 2015-21 period. The AER forecasts inflation as the geometric average across ten years of the mid-point of the RBA's forecast range for inflation for the 2016/17 and 2017/18 years (2% in the RBA's May 2016 SoMP) and the mid-point of the RBA's target range for inflation (2.5%) for the remaining years of the period. This methodology will overestimate inflation for the 2015-21 period because:[7]

50.1 it does not forecast inflation by reference to market inflation expectations in the period used to measure the nominal risk free rate (and return on equity) and accordingly the AER's forecast will not reflect the exceptionally low market expectations of inflation prevailing in our averaging period for the risk free rate (with the result that we will be under-compensated for the real rate of return);

50.2 the mid-point of the RBA's forecast range does not reflect the RBA's central estimate of inflation for 2016/17 and 2017/18; the RBA's central forecast is for gradual increases in inflation over these years, with inflation only just reaching 2 per cent (the mid-point of the RBA's forecast range) at the end of 2017/18;

50.3 there is no reason to assume that inflation would immediately jump to 2.5 per cent (the mid-point of the RBA's target range) following the 2017/18 year given inflation has averaged 1.3 per cent over the most recent two years to March 2016 and the RBA forecasts inflation to only just reach 2 per cent at the end of 2017/18; and

50.4 the mid-point of the RBA's forecast and target ranges cannot be assumed to reflect the probability weighted (as opposed to most likely)

[6] CEG, Update to nominal risk free rate and expected inflation, May 2016 at [10]-[14].
[7] CEG, Update to nominal risk free rate and expected inflation, May 2016 at [15]-[28].

CPI outcomes and thus the greater risk of below target, than above target, inflation in current market conditions.

51. The nominal Commonwealth Government Security yield and inflation data that has become available since we submitted our inflation forecast in January 2016 therefore provides further evidence that the AER should use our proposed method of forecasting inflation (and thus our proposed forecast inflation of 1.96 per cent) for the purposes of the Final Decision.

52. We note that our inflation forecast is conservative because we adopt CEG's 10 year inflation estimate, without making two further adjustments recommended by CEG to obtain the best estimate of inflation for use in the AER's post-tax revenue model. These adjustments are as follows:

    52.1 calculate a weighted average forecast of inflation by placing 60 per cent weight on a five year inflation forecast and 40 per cent weight on a 10 year forecast;[8] and

    52.2 use actual inflation in the five year inflation forecast where actual observations are available.[9]

53. CEG's best estimate of inflation for the 2016-21 access arrangement period, making these adjustments, is considerably lower than its 10 year estimate and our proposed inflation forecast, at 1.51 per cent.

[8] This weighting reflects the assumed gearing ratio of 60:40 and CEG's view that the inflation forecast that is paired with the cost of debt should be a five year forecast and the inflation forecast that is paired with the cost of equity should be a 10 year forecast: CEG, *Measuring expected inflation for the PTRM*, June 2015 (Appendix 5.01.57 of Response to the AER's draft decision, February 2016) at [6]-[11].

[9] CEG, *Measuring expected inflation for the PTRM*, June 2015 (Appendix 5.01.57 of Response to the AER's draft decision, February 2016) at [86]-[87].