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Dear Rebecca

Estimated debt risk premium using the ERA's "bond yield" methodology

The Independent Market Operator (IMO) engaged PricewaterhouseCoopers (PwC) to advise the debt risk premium (DRP)¹ that would be derived by applying the Economic Regulation Authority of Western Australia's (ERA) "bond yield" methodology. The estimate of the DRP will be used in conjunction with various other parameters to estimate a Weighted Average Cost of Capital (WACC), a necessary input into determining the 2015 Maximum Reserve Capacity Price (MRCP) for the 2017/18 capacity year. The IMO requested for the DRP to be estimated over the 20 business days ending on and including 30 September 2014 (the First Period) and 15 November 2013 (the Second Period). This draft letter represents the estimates of the DRP for the First Period.

As instructed by you, we have applied the ERA's "bond yield" methodology that was set out in the ERA's 2013 Gas Rate of Return guidelines². You have also instructed us to depart from the ERA's "bond yield" methodology, and only consider corporate bonds with a Standard and Poor's credit rating of BBB instead of BBB-, BBB and BBB+. A more detailed explanation of the ERA's "bond yield" methodology and the results obtained by applying its methodology can be found in Appendix A.

This advice is provided pursuant to the scope and terms set out in our engagement letter dated 15 August 2014.

¹ For the avoidance of doubt the estimated DRP reflects only the risk margin attributable to debt financing, and not other debt related costs such as financing, arrangement and underwriting fees.

² ERA, *Rate of Return Guidelines - Meeting the requirements of the National Gas Rules*, 16 December 2013



Results

As shown in Table 1 below, we have derived a debt risk premium of 156.5 basis points from applying the ERA’s “bond yield” methodology to estimating a DRP, though restricting the sample of bonds to only those with a Standard and Poor’s credit rating of BBB.³

The ERA’s “bond yield” methodology for regulated gas businesses, from its 2013 Gas Rate of Return guidelines, uses a sample of bonds with a credit rating of between BBB- and BBB+. As part of the ERA’s investigation into a WACC for regulated gas businesses, it found that Australian gas businesses had a credit rating that lied within the BBB credit rating band.⁴⁵

The IMO, in contrast to WA’s regulated gas businesses and in accordance with its MRCP market procedures, can only consider corporate bonds with a BBB credit rating.⁶ After applying the ERA’s “bond yield” methodology to select a sample of relevant BBB rated corporate bonds, we arrived at a sample of 17 bonds.

Table 1 – Summary of debt risk premium estimates using the ERA’s “bond yield” methodology, restricted to bonds with a BBB credit rating – 20 business days to 30 September 2014 (basis points)

| Average term to maturity | Average debt risk premium | Weighted average debt risk premium |
|--------------------------|---------------------------|------------------------------------|
| 4.74 | 158.6 | 156.5 |

Source: PwC’s analysis of the ERA’s bond yield methodology, Bloomberg

We note that the average term to maturity is approximately 4.74 years, which is lower than IMO’s target 10 year benchmark term to maturity. In general, and assuming all else remains constant, bonds with lower terms to maturity are expected to have lower debt risk premiums compared with those of greater maturity. Given that IMO’s seeks a 10 year debt risk premium, our weighted average debt risk premium of 156.5 basis points is likely to be an under-estimate.

³ Although the initial sample of bonds was 28 bonds, the actual bond sample size was 17. 9 bonds could not be used because Bloomberg did not report yields for them, and consequently a debt risk premium could not be estimated. 1 bond was excluded because, as an inflation indexed bond, it is not actively traded in financial markets making the reported yield unrepresentative. 1 bond was excluded because a risk free rate could not be estimated that matched the term to maturity of that bond, and as a result a debt risk premium could not be estimated.

⁴ ERA, *Rate of Return Guidelines - Meeting the requirements of the National Gas Rules*, 16 December 2013

⁵ BBB credit rating band refers to a credit rating of BBB-, BBB and BBB+

⁶ IMO, *Market Procedure: Maximum Reserve Capacity Price*, version 6



If you wish to discuss further the derivation of these estimates, please do not hesitate to call me on the number provided below.

Yours sincerely,

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Appendix A – ERA’s “bond yield” debt risk premium methodology

The ERA’s debt risk premium methodology involves a two step process.

First, the ERA establishes a benchmark sample of Australian corporate bonds. Using the Bloomberg search function, it involves selecting bonds that meet the following criteria:

- The appropriate Standard and Poor’s credit rating ⁷
- Term to maturity of 2 years and greater
- Bonds issued in Australia by Australian entities and denominated in Australian dollars
- Fixed and floating coupon bonds
- Bonds that are redeemed at maturity or have call or put options attached, and
- There are at least 10 yield observations over the required averaging period.

The IMO’s requirements to estimate a MRCP specify that a 20 business day averaging period should be used. In addition, the application of this method also limits the sample to those bonds that have yields reported by Bloomberg.

The ERA’s second step involves estimating a weighted average debt risk premium for the sample of bonds described above. Two weighting variables are used and combined:

- The size of issuance, which provides greater weight to bonds that are part of a larger issue, reflecting the ERA’s expectation that larger issues will be more liquid, and therefore the ERA expects the yield estimate to be more reliable.
- The term of issuance, which provides greater weight to bonds with longer terms to maturity.

Each bond’s combined weight is then calculated as the bond’s size of issuance weight multiplied by its term of issuance weight (which is called the ‘individual contribution’), which are then divided by the sum of the individual contributions to derive weights that sum to 1.

The results from applying the ERA’s debt risk premium methodology, restricted to only bonds with an S&P credit rating of BBB, are shown in Table 2.

⁷ The ERA’s final decision for ATCO used a sample of BBB-, BBB and BBB+ bonds, however the revised final decision restricted the sample to only BBB and BBB+ bonds pursuant to the Australian Competition Tribunal decision. However, we have been instructed to strictly use bonds with an S&P rating of BBB.



Table 2 – Debt risk premium estimates applying the ERA’s “bond yield” methodology for 20 business days to 30 September 2014 (2 year cut-off and BBB bonds)

| Bond name | S&P Credit rating | Issue size (\$m) | Maturity date | Term to maturity | Weighting | DRP (bps) | Contributed DRP (bps) |
|-----------------------------|-------------------|------------------|---------------|------------------|-----------|--------------|-----------------------|
| APT Pipelines | BBB | 300 | 22/07/2020 | 5.90 | 9% | 183 | 16 |
| Brisbane Airport Corp | BBB | 200 | 9/07/2019 | 4.87 | 5% | 134 | 6 |
| Brisbane Airport Corp | BBB | 350 | 21/10/2020 | 6.15 | 11% | 142 | 15 |
| Crown Group Finance | BBB | 300 | 18/07/2017 | 2.90 | 4% | 136 | 6 |
| Glencore Australia Holdings | BBB | 500 | 19/09/2019 | 5.06 | 13% | 159 | 20 |
| Global Switch Property | BBB | 100 | 23/12/2020 | 6.31 | 3% | 185 | 6 |
| Goodman Australia | BBB | 200 | 20/03/2018 | 3.56 | 4% | 165 | 6 |
| Holcim Finance Australia | BBB | 250 | 18/07/2017 | 2.90 | 4% | 141 | 5 |
| Holcim Finance Australia | BBB | 200 | 4/04/2019 | 4.60 | 5% | 163 | 7 |
| Incitec Pivot | BBB | 200 | 21/02/2019 | 4.49 | 4% | 196 | 9 |
| New Terminal Financing Co | BBB | 100 | 20/09/2016 | 2.07 | 1% | 186 | 2 |
| Perth Airport | BBB | 150 | 23/07/2020 | 5.90 | 4% | 142 | 6 |
| Perth Airport | BBB | 400 | 25/03/2021 | 6.58 | 13% | 147 | 19 |
| QPH Finance Co | BBB | 300 | 29/07/2020 | 5.91 | 9% | 152 | 13 |
| QPH Finance Co | BBB | 200 | 7/07/2021 | 6.86 | 7% | 161 | 11 |
| Sydney Airport Finance Co | BBB | 100 | 6/07/2018 | 3.86 | 2% | 146 | 3 |
| United Energy Distribution | BBB | 265 | 11/04/2017 | 2.61 | 3% | 158 | 5 |
| Simple average | | | | 4.74 | | 158.6 | |
| Weighted average | | | | | | | 156.5 |



Source: PwC's analysis of the ERA's debt yield methodology, Bloomberg

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