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Dear Neetika

### **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)<sup>1</sup> 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 2014 Maximum Reserve Capacity Price (MRCP). The IMO requested the estimate of the DRP be over the 20 business days ending on and including 30 September 2013 (the First period) and 15 November 2013 (the Second period). This letter provides the estimates of the DRP for the First period.

As instructed by you, we have applied the methodology that is set out in the ERA's final decision for WA Gas Networks Pty Ltd (ATCO) and the ERA's revised final decision for ATCO, and more recently in the ERA's 2012 revised decision on the proposed access arrangement revisions for the Dampier to Bunbury Natural Gas Pipeline (DBNGP). You also have instructed us to depart from the ERA's methodology in only analysing corporate bonds with a Standard and Poor's credit rating of BBB, instead of corporate bonds with a credit rating of either BBB or BBB+.

We have not commented upon the effect of other modest improvements to the ERA method (such as expanding the data source to include bonds other than those available from Bloomberg) nor more generally upon the relative merits of the ERA's method. A more detailed explanation of the ERA 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 28 August 2013.

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<sup>1</sup> 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.



### Results

As shown in Table 1 below, we have derived a debt risk premium of 222 basis points applying the ERA methodology to estimating a DRP, though restricting the sample of bonds to only those with a Standard and Poor's credit rating of BBB.<sup>2</sup>

In the ATCO case, and in the DBNGP 2012 revised decision identified above, the ERA chose a sample of bonds with BBB and BBB+ credit ratings because it allowed for a greater sample of bonds. Although the ERA adopted a credit rating of BBB+, it wanted to ensure there were sufficient corporate bonds to estimate a DRP.

In contrast, the IMO is targeting a BBB credit rating, and accordingly is seeking to only analyse corporate bonds with a BBB credit rating. Applying the ERA's approach to selecting the relevant bond sample, we arrive at a population of 15 BBB rated corporate 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 2013 (basis points)**

Average term to maturity	Average debt risk premium	Weighted average debt risk premium
4.66	216	222

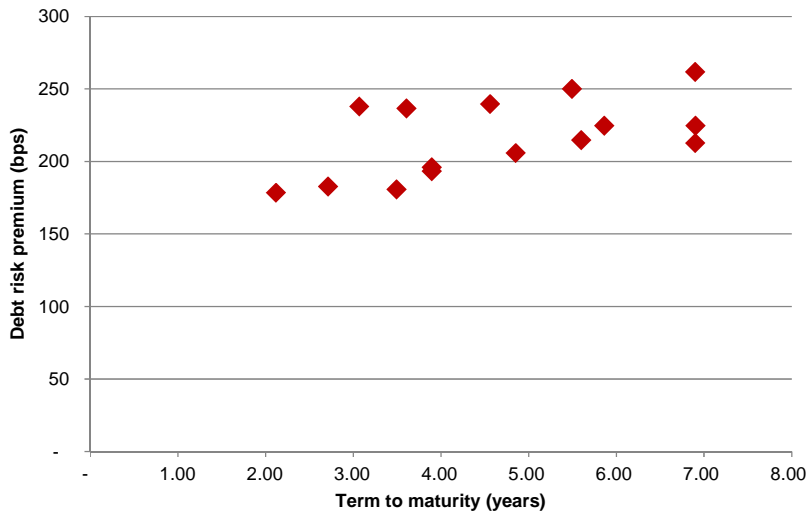
Source: PwC's analysis of the ERA's bond yield methodology, Bloomberg

We note that the average term to maturity is approximately 4.66 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 222 basis points is likely to be an under-estimate.

<sup>2</sup> The bond sample size is 15, although the initial list of bonds was 26 bonds. The other 11 bonds could not be used because Bloomberg did not report yields for them (and consequently debt risk premium could not be estimated).



**Figure 1 – Distribution of BBB bonds**



The above figure illustrates a plot of the 15 BBB rated corporate bonds based on term to maturity and debt risk premium. From Figure 1, we observe that there is an upward trend in debt risk premium as the term to maturity increases, which further supports the likelihood that our debt risk premium estimate is conservative.

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<sup>3</sup>
- 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, and
- Bonds that are redeemed at maturity or have call or put options attached.

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.

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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 debt yield methodology for 20 business days to 30 September 2013 (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)
Investra	BBB	\$45	14/10/2015	2.12	1%	179	1
Goodman	BBB	\$175	19/05/2016	2.72	3%	183	6
New Terminal Financing	BBB	\$100	20/09/2016	3.07	2%	238	5
SPI Australia Assets	BBB	\$400	21/02/2017	3.50	9%	181	16
United Energy Distribution	BBB	\$265	11/04/2017	3.61	6%	237	15
Holcim Australia	BBB	\$250	18/07/2017	3.90	6%	193	12
Crown Group	BBB	\$300	18/07/2017	3.90	8%	196	15
Goodman	BBB	\$200	20/03/2018	4.56	6%	240	14
Sydney Airport	BBB	\$100	6/07/2018	4.85	3%	206	7
Incitec Pivot	BBB	\$200	21/02/2019	5.50	7%	250	18
Holcim Australia	BBB	\$200	4/04/2019	5.60	7%	215	16
Brisbane Airport	BBB	\$200	9/07/2019	5.87	8%	225	17
APA Group	BBB	\$300	22/07/2020	6.90	13%	262	35
Perth Airport	BBB	\$150	23/07/2020	6.90	7%	213	14
Port of Brisbane Corp	BBB	\$300	29/07/2020	6.91	14%	225	30
<b>Simple average</b>				4.66		216	
<b>Weighted average</b>							222

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