SUBMISSION 75: Best Estimate of DRP Using the Bond-Yield Approach

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1. INTRODUCTION

1.1. On 31 October 2011, the Economic Regulation Authority of WA (**ERA**) made its Final Decision in relation to the amended revised access arrangement proposal for the Dampier to Bunbury Natural Gas Pipeline (**DBNGP**) filed by DBNGP (WA) Transmission Pty Ltd (**DBP**) on 18 April 2011 (Revised AA Proposal).

1.2. In accordance with Rule 62 of the NGR, the ERA's Final Decision was not to approve the amended revised access arrangement proposal and to require some 74 amendments to be made before a revised access arrangement could begin to take effect.

1.3. On 22 December 2011, the ERA published an Amended Final Decision (Final Decision) together with its own revised access arrangement (Access Arrangement Decision) that incorporated into the revised Access Arrangement for the DBNGP all of the amendments from the Final Decision, pursuant to Rule 64 of the National Gas Rules (**NGR**).

1.4. On 16 January 2012, DBNGP (WA) Transmission Pty Ltd and DBNGP (WA) Nominees Pty Ltd (DBP) applied to the Australian Competition Tribunal (Tribunal), in ACT No 2 of 2012, for merit review of the Access Arrangement Decision.

1.5. DBP's application was heard before the Tribunal on 16 April and 21 to 24 May 2012 and the Tribunal's reasons for its decision were handed down on 26 July 2012 (**Tribunal Decision**).

1.6. The Tribunal found that the ERA committed errors in relation to the following aspects of ERA's Access Arrangement Decision:

(a) The methodology used to estimate the value of the Debt Risk Premium (**DRP**)

(b) The correct valuation of capital expenditure in respect of the BEP Lease

1.7. The Tribunal exercised its powers to remit both matters to the ERA to enable it to remake the decision in a way that corrects the errors found by the Tribunal in the Tribunal Decision. In so doing, the Tribunal ordered the ERA redetermine the value of the DRP using the ERA's bond yield approach in accordance with the Tribunal's reasons, including having regard to the Tribunal's criticisms of the simple averaging process adopted by the ERA in the Final Decision.

1.8. On 20 August 2012, the ERA invited submissions from DBP and other interested parties on the issue as to how it should derive a value for the DRP using the ERA's bond-yield approach.

1.9. The invitation comes shortly after the ERA had addressed the same remitted matter in the ERA's Revised Decision for the Mid-West and South-West gas distribution system for ATCO (**ATCO Revised Decision**) made at 25 June 2012.

2. CONSTRUCTION OF THE NGR AND ROLE OF THE ERA IN LIGHT OF TRIBUNAL DECISION

2.1. In the Tribunal Decision, the Tribunal found, relevantly, that Rules 87(1) and 87(2) of the NGR operate together in the following way:

(a) Rule 87(1) describes the objective to be achieved when determining the rate of return, but contains no guidance on how the objective is to be achieved;

(b) In the interests of regulatory consistency, it is desirable that such guidance be provided, and it is provided by Rule 87(2);

(c) The requirements of rule 87(2) for a well accepted approach and a well accepted financial model minimise, if not negate, DBP's submissions concerning the limitations of the Capital Asset Pricing Model for the purpose of estimating the cost of equity to be used in the calculation of a WACC; and

(d) Notwithstanding this, the inputs into the model are critical, and rule 87(1) informs the appropriateness of the inputs; the selection of the appropriate input values is a critical step in ensuring that the well accepted approach using a well accepted financial model produces an outcome which accords with the objective of rule 87(1).

2.2. As noted in section 1 of this submission, the Tribunal has exercised its discretion under section 259 of the NGL to set aside the Final Decision and remit it to the ERA to remake the decision. This means a fresh decision must be made by the ERA.

2.3. In remaking the decision, the ERA must:

(a) apply the law required to be applied in re-making that decision; and

(b) make it in accordance with any direction or recommendation of the Tribunal

2.4. The requirement to apply the Law is not in some way removed by a direction of the Tribunal that is confined to a limited number of issues. The remittal decision is to redetermine the access arrangement and in so doing, only correct the values of the DRP and the BEP Lease.

2.5. The ERA must therefore make sure that the provisions of the access arrangement are consistent with the National Gas Objective and the National Gas Rules (as in force when the terms and conditions of the access arrangement are determined) – Rule 100(b) of the NGR.

2.6. Accordingly, in setting the value of the DRP (being one of the inputs into the model to calculate the cost of debt), the ERA must ensure that the value for the DRP is:

(a) commensurate with the prevailing conditions in the market for funds and the risks involved in providing reference services at the time of making the remittal decision;

(b) arrived at on a reasonable basis and must represent the best forecast or estimate possible in the circumstances (as required by Rule 74); and

(c) consistent with the National Gas Objective (as required by Rule 100(a) of the NGR) and the revenue and pricing principles.

3. DEBT RISK PREMIUM

3.1. The Tribunal's decision accepted that the ERA's bond-yield approach as a valid approach in determining the DRP.

3.2. However, the Tribunal found that the ERA was in error in its application of a simple average of the ERA's 4 scenarios, which produced various categories of estimates, in order to establish a single value for the DRP.

3.3. The Tribunal, at paragraph 311 of its reasons, stated that it found that the ERA's choice of a value for the DRP based on its averaging procedure constitutes an incorrect exercise of its discretion, or alternatively was unreasonable.

The ERA's Bond-Yield Approach

3.4. The ERA's bond-yield approach relies on bond yields observed from the Australian financial market.

3.5. In establishing the sample set of bond yields, the ERA initially sought to select bonds from companies which satisfied three criteria:

(a) The companies must have the same Standard and Poor's credit rating as the regulated business (in the ERA's view BBB/BBB+). The ERA also includes BBB- bonds which it suggests reflects a conservative approach in selecting the bond sample;

(b) The companies must be in the regulated utility sector;

(c) The relevant bonds must have a maturity of two years or longer to ensure that there are sufficient bonds in the sample for the analysis.

3.6. However, the ERA observes that as there were only four bonds issued by businesses in the Australian energy sector traded at the time and therefore it deemed it more appropriate to determine the sample set with a broader set of criteria. The ERA's expanded criteria were as follows:

(a) Credit rating of BBB-/BBB/BBB+ by Standard and Poor's

(b) Time to maturity of 2 years or longer

(c) Bonds issued in Australia by Australian entities and denominated in AUD;

(d) Inclusion of both fixed bonds and floating bonds; and

(e) Inclusion of both Bullet and Callable / Puttable redemptions.

3.7. The ERA, in its Final Decision, used the following sample of 15 Bonds as at 30 September 2011.

Table 1: BBB-/BBB/BBB+ Australian Corporate Bonds (>2yr tenor) – 30 September 2011

	Company	Term	Obs Yield	RF	DRP
1	APT Pipelines	8.81	7.103	4.175	2.928
2	DBCT Finance	4.69	8.100	3.774	4.326
3	Nexus Australia MGT	5.92	7.108	3.933	3.175
4	Nexus Australia MGT - Long	7.92	7.361	4.106	3.255
5	Mercedes-Benz Australia	2.53	4.951	3.604	1.347
6	Dexus Finance	5.56	6.811	3.872	2.939
7	Envestra Victoria	4.04	7.164	3.741	3.423
8	Goodman Australia Indust	4.64	7.310	3.772	3.538
9	Leighton Finance	2.83	7.609	3.627	3.982
10	LeasePlan Australia	2.4	6.626	3.599	3.027
11	Sydney Airport Finance	3.77	6.529	3.706	2.823
12	Sydney Airport Finance - Long	6.77	7.129	4.01	3.119
13	Mirvac Group Funding	3.46	6.65	3.678	2.972
14	Mirvac Group Finance	4.96	7.134	3.798	3.336
15	Santos Finance Ltd	3.98	6.143	3.733	2.41

3.8. The ERA considered 4 scenarios in estimating the DRP using the bond-yield approach applied to the above sample of bonds:

(a) A full sample of 15 Australian corporate bonds (Scenario 1)

(b) A shortened sample of 12 bonds excluding those with BBB- credit rating (Scenario 2);

(c) A shortened sample of 5 bonds excluding those with less-than-5-year term to maturity (Scenario 3);

(d) A shortened sample of 3 bonds excluding those with BBB- credit rating and all bonds with less than 5 years term to maturity (Scenario 4).

3.9. For the 4 scenarios above the ERA then applied 4 weighted average methods. The 4 methods considered were:

(a) a simple average;

(b) a term-to-maturity weighted average;

(c) an amount-issued weighted average; and

(d) a median approach.

3.10. The DRP calculated under the different scenarios and different weighted averaging methods resulted in the following estimates provided in Table 37 in the ERA's Final Decision.

Table 2: DRP under various scenarios and weighted average approach – 30 September 2011

Weighted Average Method	Scenario 1 15 bonds	Scenario 2 12 bonds	Scenario 3 5 bonds	Scenario 4 3 bonds
Simple Average	3.107	3.062	3.083	2.995
Term to Maturity Weighted Average	**3.146**	**3.106**	**3.083**	**2.992**
Amount Issued Weighted Average	3.162	3.148	3.064	3.085
Median	3.119	2.999	3.119	3.044

3.11. DBP notes that the Tribunal, in paragraph 174 of its reasons, preferred Scenarios 1 and 2 on account of their larger sample sizes. DBP notes that the ERA itself had already rejected an approach which would rely on a limited sample size (as outlined in paragraph 3.6 above) of comparable businesses.

3.12. DBP submits it is not consistent with the requirements of the NGR to rely on Scenarios 3 and 4 (which have a sample of 5 and 3 bonds). This is so for the following reasons:

(a) The number of bonds in each scenario is insufficient for any reasonable regulator to be able to conclude that it would deliver a forecast or estimate that is reasonable.

(b) It is inconsistent with the reasoning of the Tribunal when it indicated its preference for Scenarios 1 and 2.

(c) Given that there were more than 15 bonds available to be assessed, limiting an assessment to only 5 or 3 bonds is not representative of the best forecast or estimate in the circumstances.

(d) Scenario 4, by excluding all bonds with BBB- credit rating and all bonds with less than 5-year term to maturity, does not reflect the risks of providing the reference services on the DBNGP, given that DBP is rated BBB-. Nor is the value delivered from scenario 4 commensurate with the prevailing conditions in the market for funds.

3.13. At paragraph 175 of its reasoning in the ATCO case (which were applied to the Tribunal Decision (see para 289)), the Tribunal points out that the ERA, without justification, was "… of the view that a simple average of all four scenarios, when the term of maturity weighted average is used, is likely to reflect the current conditions in the market for funds". It then concluded at paragraph 170 of the ATCO case that the ERA was in error in applying this simple averaging approach.

3.14. The Tribunal accepted the ERA's inclination to favour the term to maturity average approach, however it queried the ERA's lack of consideration of the amount-issued weighted average suggesting both characteristics would be regarded as important in the market. The Tribunal comments that it is statistically possible to combine weights so that two or more characteristics can be assigned their due importance.

3.15. DBP addresses these aspects of the Tribunal's decision in Section 4 of this submission.

4. BEST ESTIMATE OF DRP USING THE BOND-YIELD APPROACH

4.1. In light of the role to be undertaken by the ERA in this remittal process (in this regard, see section 2 of this submission), DBP has considered the Tribunal's decision and the ATCO Revised Decision and examined a number of scenarios using the ERA's bond sample set out in the Final Decision (and using the values for the bond samples as at 30 September 2011).

4.2. They are as follows:

(a) The full sample of 15 bonds used in the Final Decision (being BBB-/BBB/BBB+ Australian Corporate Bonds) (Scenario A – this is the same as Scenario 1 from the Final Decision);

(b) BBB- only bonds (Scenario B);

(c) The full sample excluding the Mercedes-Benz Australian bond (Scenario C);

(d) Scenario 3 including the DBNGP Finance Co Bond (Scenario D)

4.3. DBP has also considered a variation of Scenario D including an adjustment consistent with the 5yr Bloomberg forward looking composite curve.

4.4. For each of the above scenarios, DBP has then considered a number of methodologies to produce a single point estimate for the DRP which meets the criteria under the NGR. The methodologies examined are:

(a) Simple average;

(b) Term to maturity weighted average;

(c) Issuance weighted average;

(d) ERA's joint weighted average approach; and

(e) DBP's joint weighted average approach including an adjustment based on the 5yr Bloomberg forward looking composite curve.

4.5. DBP considers each of the above scenarios in turn (other than Scenario A which has already been discussed by the ERA (as scenario 1 in the Final Decision), and then assesses each of the above averaging methodologies to each scenario.

The influence of BBB- bonds in the sample set – Scenario B

4.6. At paragraph 578 of its Draft Decision the ERA suggests it agrees with the positions advanced by third party submission which suggest the inclusion of BBB and BBB- Australian corporate bonds in the benchmark sample overstates the DRP and concludes without further justification that the benchmark credit rating for regulated business is generally BBB+.

4.7. Rather than substantiating its statement concluding that the benchmark credit rating for regulated business is generally BBB+, DBP notes that the ERA has listed Australian corporate bonds issued by businesses in the energy sector (table 35 of the Draft Decision) which contains the bonds of companies with regulated assets range from BBB- and BBB (being APT with a credit rating of BBB, Envestra with a credit rating of BBB- and DBP with a credit rating of BBB-). The evidence does not lead to the conclusion that Australian Regulated Utilities are generally BBB+.

4.8. Rather than exclude BBB- bonds from the sample used in the determination of DRP it is DBP's view that BBB- bonds should be considered as an important reference point for the determination of DRP, particularly DBP's own case. To not do so would mean that the result is not commensurate with either the prevailing conditions in the market for funds for the service provider of the DBNGP or the risks of providing reference services on the DBNGP.

4.9. The ERA is required to not only make a determination on the rate of return for a benchmark efficient service provider (which in DBP's opinion may not necessarily have a credit rating of BBB+) the ERA must also take into account the revenue and pricing principles which, as stated above, mandates that a reference tariff is to allow for a return commensurate with the regulatory and commercial risks involved in providing the reference service to which the tariff relates.

4.10. As previously submitted by DBP, the credit rating of an organisation is not solely determined by the gearing of the service provider. Benchmarking cannot occur in the abstract, and requires consideration of many factors including the reliability of gas supplier, the location of pipeline assets, the ways in which those assets are operated and maintained, the state of capital markets, and the creditworthiness of counterparties. In respect of gearing and other financial parameters, the use of benchmarks is further qualified by a requirements to take into account best practice.

4.11. Best practice is responsive to conditions and context: what is best practice in one context may not be best practice in another. In consequence, the requirements to use benchmark levels of efficiency, and to use benchmark standards as to gearing and other financial parameters, call for judgment and therefore admit a range of possible outcomes.

4.12. Broader considerations must be taken into account. In DBP's view this is further substantiated by AMPCI's advice in **Attachment 1** (pages 3 - 8) regarding determinants of bond pricing.

4.13. It is on this basis DBP includes a sample of BBB- only bonds in its analysis and considers it as an important reference point as DBP's own credit rating is BBB- reflecting the regulatory and commercial risks its business faces in providing the reference services. DBP does note this scenario has the obvious limitations as there are only very limited number of BBB- rated companies in the sample set and therefore DBP does not place sole reliance on it.

Exclusion of Mercedes-Benz Australia bond (Scenarios C and D)

4.14. DBP is of the view that, in making its remittal decision, the ERA must exclude the Mercedes-Benz Australia bond from the sample set. This is what DBP has done in Scenarios C and D.

4.15. The reasons for removing this bond from the sample set are as follows:

(a) The DRP for Merecedes-Benz Australia at 30 September 2011 was 1.347 and should have been considered as a statistic outlier by the ERA.

(b) The Merecedes-Benz Australia's credit rating was BBB+ at the time the sample was set by the ERA but its DRP was not indicative of the BBB range. DBP also notes that Standard and Poor's current credit rating is A- for Mercedes- Benz Australia.

4.16. DBP therefore does not consider that the Mercedes-Benz Australia bond to be a relevant data point for the calculation of a DRP that would lead to compliance with the RRPs or the concept of a benchmark efficient service provider.

Exclusion of the DBNGP Finance Co bond (Scenario D)

4.17. As previously submitted, DBP is of the view that the ERA was wrong to have excluded from the available sample set the DBNGP Finance Co bond data. DBP notes that it was included for consideration in the Draft Decision.

4.18. DBP's own bond issuance is surely the most appropriate comparator of what is commensurate with the risks involved in providing reference services when determining the correct value for DRP for the DBNGP Access Arrangement. Should the ERA not agree with this submission, it at least could not be excluded from consideration based on it being inconsistent with the concept of a benchmark efficient service provider.

4.19. The ERA did not make available, as part of the Final Decision, the credit rating for each company at the time of the Draft or Final Decisions. Therefore, DBP provides the following table reflecting the credit rating for each company's bonds at 30 September 2011.

Table 3: ERA sample company credit ratings at 30 September 2011

	Company	Credit Rating
1	APT Pipelines	BBB
2	DBCT Finance	BBB
3	Nexus Australia MGT	BBB-
4	Nexus Australia MGT - Long	BBB-
5	Mercedes-Benz Australia	BBB+
6	Dexus Finance	BBB+
7	Envestra Victoria	BBB-
8	Goodman Australia Indust	BBB
9	Leighton Finance	BBB
10	LeasePlan Australia	BBB
11	Sydney Airport Finance	BBB
12	Sydney Airport Finance - Long	BBB
13	Mirvac Group Funding	BBB
14	Mirvac Group Finance	BBB
15	Santos Finance Ltd	BBB+

4.20. While the ERA did not make the credit rating information of each company available at the time of the Final Decision, DBP has inferred that that the both Nexus Australia MGT bonds and the Evestra bond were rated as BBB- at 30 September 2011 based on the number of bonds excluded in the ERA's Scenario 2 which excluded three BBB- bonds.

4.21. However, since the ERA did not seek to remove the Nexus Australia and Envestra bonds from the sample set used in Scenario 1 in the Final Decision, there seems little reason to exclude DBNGP Finance Co bond.

4.22. It is on this bass that DBP consider that the DBNGP Finance Co bond should be included for consideration when determining the more reasonable estimate for the DRP.

Applying the averaging methodologies - ERA's Revised Decision for the Mid-West and South-West Gas Distribution System

4.23. In its ATCO Revised Decision, the ERA reconsidered the proper application of the bond-yield approach in estimating the DRP pursuant to the orders of the Tribunal's reasons in ATCO's application.

4.24. In the ATCO Revised Decision, the ERA's adopted a term to maturity weighted average methodology to the Scenario 2 bonds (which consisted of BBB and BBB+) to estimate the DRP.

4.25. The ERA has also recognised that the Tribunal requested further discussion in regards to the amount-issued weighted averaging methodology as both term and issuance are likely to have a bearing on DRP in the market. The ERA's comments in paragraph 45 in its ATCO Revised Decision suggests that the ERA is of the view that there is merit to assign weight to bonds with large issuance in comparison with other bonds in the benchmark sample. However, the ERA did not proceed with this methodology amid concerns that it the approach had a compounding effect on particular bonds.

4.26. The ERA, at paragraph 47 of the ATCO Revised Decision, outlines the joint weight method which takes into account both characteristics, maturity and the issuance size. It can be summarized as follows:

(a) the product of term to maturity and the issuance, to be called "the contribution", is calculated for each bond in the sample;

(b) the sum of these all contributions is derived, to be called "the total";

(c) the weight assigned to each bond is simply the ratio between its own contribution and the sample's total, to be called "the combined weight";

(d) the combined weight for each bond is multiplied by it associated DBP to derive the DRP for each bond, to be called "the bond's DRP", contributed to the sample.

(e) Finally, the sum of the Bond's DRPs is the estimate of the DRP for the sample when two characteristics of bonds are considered term to maturity and the issuance.

4.27. The ERA provides limited analysis on its attempted combined methodology. It however, concluded that there is a compounding effect assigning relatively higher weights in comparison with other bonds in the sample. The ERA's brief analysis of the joint weighted methodology is addressed by AMPCI in its report contained at **Attachment 1** (page 10).

4.28. AMPCI, after considering the ERA's analysis of its own joint weighted averaging methodology, concludes that while the joint weighted averaging methodology does create a compounding effect, it mathematically provides a more accurate estimate of DRP.

4.29. Based on this advice, DBP considers the joint weighted average provides as a valid method when estimating the DRP from the ERA's bond-yield approach.

Adjustment for 5 year maturity

4.30. AMPCI's advice to DBP is that it is appropriate to make a further adjustment to the result of the joint weighted averaging approach to accommodate for the difference between the maturity weighted average of the sample of the bonds the ERA have used and the period applicable to the relevant access arrangement of five years.

4.31. AMPCI estimates that on a forward looking basis the appropriate step-up in credit spread between 4 and 5 years is about 31 basis points. DBP notes this is conservative in the context of the historically observed spread (34bps). DBP is also of the view that it is more appropriate to use the forward looking curve as the cost of debt is to be applied for the forward period.

4.32. The weighted average maturity of the ERA's sample is 4.92 years. DBP has therefore only applied an adjustment proportional to the difference between the samples weighted average maturity and the 5 year access arrangement period.

4.33. DBP recognises this is a small adjustment in this instance however; it is only coincidental that the weighted average tenor is close to 5 years using the 30 September 2011 sample set.

DRP estimate

4.34. Based on AMPCI's advice outlined above DBP considers the joint weighted averaging methodology to be the most reasonable methodology in the limited scope of the current process.

4.35. DBP submits that it is also valid to consider an additional adjustment to normalise the sample for a 5 year maturity.

4.36. The results produced by the range of approaches and outlined sample set scenarios outlined above are provide in the following table:

Weighted / Average Method	Scenario A Full Sample	Scenario B BBB-	Scenario C Full Sample Excluding A-	Scenario D Exclude A- Includes DBNGP
Simple Average	3.107	3.284	3.232	3.240
Term to Maturity Weighted Average	3.146	3.266	3.211	3.219
Amount Issued Weighted Average	3.159	3.271	3.253	3.272
ERA joint weighted average	3.159	3.261	3.206	3.229
Joint weighted average adjusted for 5yr Maturity	3.182	2.643	3.191	**3.277**

4.37. For the reasons outlined above the preferred scenario is scenario D which excludes the Mercedes-Benz Australia bond and includes DBP's own bond issuance.

4.38. DBP also considers the use of a joint weighted average and the discussed adjustment of 5 year maturity to be preferable methodologies in producing and estimate which meets the requirements.

4.39. DBP therefore submits that the appropriate DRP arrived at on a reasonable basis and represent the best estimate while using the ERA's bond-yield approach is 3.277%.

4.40. Accordingly, DBP submits that the correct value for DRP to be used in the remittal decision is 3.277%, determined using Scenario D and the joint weighted averaging methodology.

4.41. DBP considers this DRP to be conservative when taking into account the results in Scenario C notwithstanding its limited sample size and Scenario A which includes the Mercedes-Benz Australia bond and not the DBNGP Finance Co bond data.

Attachment 1: AMPCI views around the ERA consultation process as it relates to DRP