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Response to Draft Report: 2019 Benchmark Reserve Capacity Price for the 2021-22 Capacity Year

1. Introduction

Merredin Energy Pty Ltd (**MEPL**) owns and operates the 82 MW open cycle gas turbine power station located in Merredin, Western Australia. The financial performance of the plant is highly dependent on the revenue earned by providing Capacity Credits under the Reserve Capacity Mechanism (**RCM**). The level of the Benchmark Reserve Capacity Price (**BRCP**) has the potential to significantly impact the revenue received by MEPL in 2021-22, as well as impact the incentives for new plant entry in the South West Interconnected System (**SWIS**).

We provide this submission to ensure that the Australian Energy Market Operator (**AEMO**) considers the future viability of current and new plant when establishing this important benchmark price.

2. Draft BRCP

AEMO has proposed a BRCP of $153,200 per MW per year for the 2021-22 capacity year, 0.3% lower than the 2020-21 BRCP of $153,600 per MW per year.

The rationale for the real and nominal reduction in the BRCP is as follows:

- 1.8 per cent reduction in the escalation factor; and,
- 0.3 per cent reduction in Fixed Operation and Maintenance (FOM) costs.

However, the BRCP has been set well below new entrant levels due to the following factors:

- Annualising generation and transmission capital costs with a Weighted Average Cost of Capital (WACC) that is set well below levels that would be applicable in the funding of peaking generators in Australia; and,
- Current choice of the reference generation unit of 160 MW OCGT that is not likely to be installed in a system that has low peak demand growth.

3. Current WACC Methodology

The real after tax WACC of 5.24 per cent reflects the cost of debt and equity finance. We discuss the underlying assumptions used by AEMO and comment on whether the parameters are appropriate for financing a gas-fired power station.

Nominal Return on Debt

The AEMO uses a nominal risk-free rate of 2.6 per cent and a rate of inflation of 2.42 per cent, implying a risk-free rate of 0.18 per cent. The nominal risk-free rate is then increased by a margin of 2 percentage points to provide a nominal return on debt of 4.8 per cent.

In our view, while the nominal return on debt of around 4.8 to 5 per cent is a reasonable point estimate, it does not reflect likely funding costs over a 10-year period (power stations will typically have to be continually re-financed over their assets lives). In our view, nominal return on debt should reflect current market rates (above) plus longer-term rates that are likely to eventuate. This is the methodology employed by the Independent Pricing and Regulatory Tribunal (IPART) in New South Wales[1]. Using their methodology whereby current market rates and likely future rates are weighted 50 per cent each result in a nominal return on debt of 5.8 per cent.

The AEMO acknowledges (see Section 4 of Draft BRCP proposal) that the current method of using low estimates of the real risk-free rate and subsequently the WACC, are not likely to reflect market rates that new entrant generators are likely to pay. However, while suggesting that this criticism is valid, they do not propose an alternative methodology.

Market Procedures that are no longer consistent with the intent of the Market Rules (i.e. BRCP should reflect new entrant costs, including providing an adequate financial return to owners of generation) should not be adhered to.

The AEMO should immediately propose a change to the current Market Procedure to allow it the discretion to vary the real risk-free rate of return or market debt premium to enable the BRCP to reflect the actual cost of debt financing power stations. We would recommend a 1 percentage point increase in the nominal return on debt.

Nominal Return on Equity

The nominal return on equity of 7.58 per cent is based on annual inflation of 2.42 per cent, an equity beta of 0.83, and a market risk premium of 6 per cent.

Equity Beta

The equity beta measures the riskiness of a business or sector relative to the overall market. The equity beta value used in the WACC calculation by the AEMO is 0.83

The risk profile for electricity generators in the WEM (and the NEM) have increased appreciably in the past 5 years. Electricity growth is no longer consistent due to a range of factors, such as: variability in economic growth; increased energy efficiency; and the increased penetration of distributed generation.

Political debate and policy reversals have also impacted the risk profile for power generators, such as the most recent debate over the National Energy Guarantee.

The WA State Government has also increased the risk profile of generation by endorsing proposed reforms recommended by the Public Utilities Office (e.g. convex capacity price curve that could result in a zero-capacity price at 30 per cent excess capacity).

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1 IPART, Review of our WACC method, Final Report Research, February 2018.

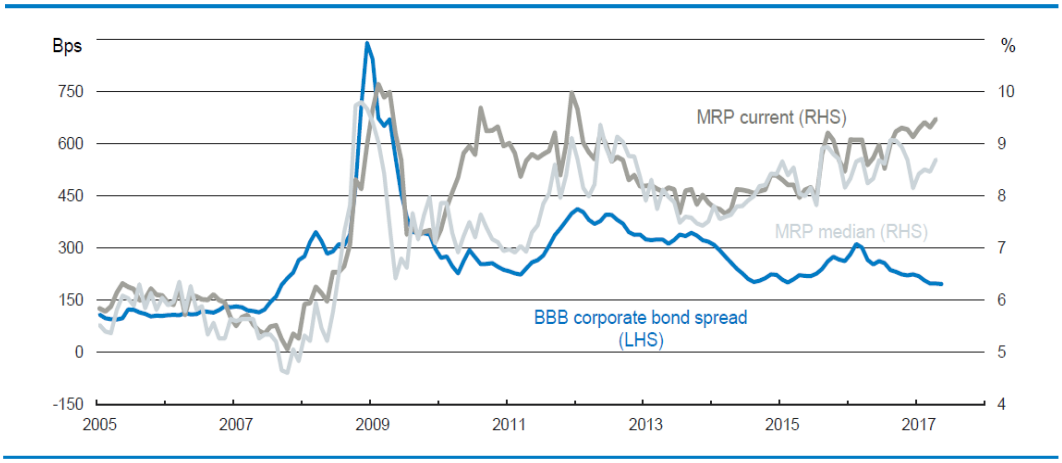
Given the volatility in the operating environment for electricity generation assets in Western Australia, Merredin Energy considers that the current value for the equity beta is too low. An equity beta > 1 should be considered, which is consistent with WACC determinations by the Independent Pricing and Regulation Tribunal in NSW. IPART found that equity betas of 0.95 to 1.15 for should be used for electricity generators, with a mid-point of 1.05.[2]

Given the current investment environment, we would suggest an equity beta of at least 1.05.

Market Risk Premium

A Market Risk Premium (MRP) of 6 percentage points is added to the current inflation rate to determine the return to equity holders. While 6 percentage points reflects the long run risk premium associated with power station finance[3] it doesn't reflect the risks associated with financing a power station today. As shown below, IPART has calculated that the MRP exceeds 8 per cent in recent years.

Figure 1: Market Risk Premiums and BBB corporate bond spread



Source: IPART, Review of our WACC method, Final Report Research, February 2018

IPART's approach is to calculate WACCs based on both the long term MRP (6 per cent) and the current MRP (8.3 per cent), and then use the mid-point of short term and long term WACC estimates in the assessment of regulatory pricing.

Given that the current market risk premium currently exceeds 8 per cent (mainly due to the lower risk-free rate of debt), we suggest that the MRP used by AEMO in the calculation of the BRCP should be increased to 7 per cent.

Conclusion on WACC

In our view, the following parameters should be used to set the WACC (all other AEMO assumptions remain in place):

- MRP = 7 per cent
- Equity beta = 1.05
- Nominal return on debt of 5.8 per cent

If these parameters were used, then the real WACC used in the calculations of the BRCP for 2021-22 would be 8.18 per cent (pre-tax real), which implies a BRCP of $179,081 per MW

2 IPART, Review of WACC Methodology, Research – Final Report, December 2013

3 IPART (2018) indicated that over long periods of time (i.e. decades) the MRP is steady at about 6 per cent.

per annum, rather than the currently proposed price of $153,234 per MW per annum. A WACC of between 7 to 8 per cent is currently used in the assessment of both conventional and renewable energy plant in Australia. The current real (pre-tax) WACC of 5.24 per cent does not reflect the cost of financing power stations in Australia which implies that the BRCP is set significantly below new entrant levels.

Basing capacity prices at these levels will not encourage new plant entry to meet the future reliability criteria unless a potential shortage results in a price spike. Under the proposed capacity price formula, the maximum price could be set at 1.3 times the BRCP when excess capacity is zero.[4] In effect, by setting a BRCP too low, the AEMO is now relying on the new price capacity price formula to attract new capacity. However, by encouraging greater price volatility, the outcome is likely to deter new entry (i.e. concern that a period of high prices may be followed by a period of low prices).

4. Reference Unit Size

In the most recent peak demand forecasts, the AEMO is forecasting that peak demand will grow by around 24 MW per annum (Expected Case) for the 10 per cent PoE case over the period 2018-19 to 2027-28.[5] If expected demand growth is only between 6 and 43 MW (average of 24 MW) per annum, why is the Benchmark unit still a 160 MW OCGT plant (derated to 151.4 MW)?

This is an issue that has been raised by market participants in previous submissions. In Section 4 of the Draft BRCP paper, the AEMO acknowledges the issue.

"AEMO considers the size of the reference power generator does not reflect future growth of peak demand in the WEM. The average size of generators recently installed in the SWIS is approximately 20 MW. AEMO notes that an OCGT power station has not been installed in the SWIS in the past seven years, and that a power station of this configuration is no longer available for purchase on the market."

Continuing to set the BRCP at the cost of a 160 MW unit will deter new investment in the WEM. Rather than a smaller diesel or gas plant entering the market to address potential capacity shortfalls, they won't enter the market since the BRCP is set well below the higher cost of a smaller plant (likely to exceed $200,000 per MW per annum). Once again, AEMO will have to rely on the proposed capacity pricing model to address the deficiency (capacity price permitted to go 1.3 times the BRCP). As outlined earlier, this will result in increased price volatility in the market, which is not conducive to encouraging new plant investment. In effect, using an inappropriate reference plant is increasing entry barriers in the WEM.

5. Summary and Conclusions

It is likely that the resulting RCP in 2021-22 will not be viable for existing generators due to a combination of factors:

- BRCP being set below the actual cost of new plant entry for the reasons outlined above;
- Entry of large-scale renewable plant in response to incentives under the Commonwealth Large-scale Renewable Energy Target (LRET) scheme, which will increase overall excess capacity in the absence of plant retirements. In our submission to the PUO on the proposed capacity pricing model[6], we indicated that the RCP is likely to go below $100,000 per MW

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4 Department of Treasury | Public Utilities Office, Improving Reserve Capacity pricing signals – a proposed capacity pricing model, Draft Recommendations Report, 22 August 2018

5 AEMO, 2018 Electricity Statement of Opportunities, A report for the Wholesale Electricity Market, June 2018.

6 Merredin Energy, Response to Consultation Paper: Improving Reserve Capacity pricing signals – a proposed capacity pricing model, 19 September 2018.

per annum in 2021-22 due the new pricing methodology and the likely entry of renewable plant;

Owners of generation capacity typically repay the original capacity investment over 15 years and the generators need to be re-financed every 3 to 5 years. Persistently low RCP's make re-financing difficult and can result in debt providers putting a risk premium on interest rates.

In Merredin Energy's experience, the costs of operating and financing (and re-financing) peaking units are well above the draft BRCP for 2021-22. We don't believe that setting a benchmark price deliberately below the annualised cost of new plant entry, and then have the RCP fall below $100,000 per MW per annum is consistent with the purpose of the RCM.

The purpose of the RCM is to reduce the need for high and volatile energy prices (that exist in the National Electricity Market) and to provide enough revenue for peaking facilities and trigger new investment when required. The RCM was established to fully fund the capital costs for peaking facilities and contribute to the capital costs of mid-merit and base load units.

The RCM has failed to fund the capital costs of peaking units for several years and establishing a BRCP of $153,200 per MW per annum for 2020/21 will continue this trend.

Many of concerns with the BRCP methodology has been raised in previous draft decisions to AEMO and its predecessor organisation (IMO). Section 4 of the AEMO's draft decision acknowledges those issues raised by participants over the last 3 to 4 years. Yet is appears that AEMO will just continue with current market rules and procedures that establish the BRCP that are not consistent with the intent of the RCM. In our view, market rules and procedures should be amended immediately to ensure that Market Generators are not further penalised, as has been the case for at least the last 4 years. Merredin Energy is disappointed that these issues (yet again) have not be addressed in setting of the RCP (this time for 2021-22).

Regards,

John Delicato
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Merredin Energy