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17 January 2012

Attn: Mr Greg Ruthven
Acting Manager, System Capacity
Independent Market Operator
PO Box 7096
Cloisters Square, Perth, WA 6850

By email: imo@imowa.com.au

Dear Sir

SUBMISSION ON THE IMO'S DRAFT MRCP REPORT FOR 2014-15 CAPACITY YEAR

Merredin Energy is a new participant in the South West Interconnected System and owner of the 82MW peaking generation plant being constructed near the town of Merredin, WA. We welcome the opportunity to provide comments on the Independent Market Operator's Draft Report on the Maximum Reserve Capacity Price published on 13 December 2011. Our submission on the MRCP for 2014-15 is attached.

We would be happy to discuss the issues raised in our submission with the IMO in further detail.

Yours sincerely

Shane Jones
Director

Julian Widdup
Director

SUBMISSION ON THE IMO'S DRAFT MRCP REPORT FOR 2014-15 CAPACITY YEAR

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1. MRCP Review and Consultation Process

Merredin Energy considered the MRCP for 2013-14 to be representative of the actual costs of building a new open cycle gas turbine power station. The substantial MRCP reduction for 2014-15 is unrealistic and results in an MRCP that does not reflect the actual costs currently faced by developers of new OCGT power stations.

Merredin Energy is concerned that the proposed MRCP revisions may be a knee-jerk response to a preconceived view that the previous reserve capacity price was too high. The MRCP is not a blunt tool for limiting new capacity and we note the IMO does not have a stated policy objective to limit excess capacity.

The primary functions of the MRCP are to determine the reserve capacity price in non auction years and to provide adequate remuneration to owners of reserve capacity generation plants. Its role in remunerating generators should not be seen as a secondary issue to the price cap for a reserve capacity auction. We consider that financiers will be alarmed by the volatility of price changes and this will, in turn, increase the cost of funding. This volatility must feed into the asset beta and the WACC.

To ensure the MRCP is set at an appropriate level, Merredin Energy recommends the IMO reviews the process and timeframes for determining the MRCP. In particularly we note the following:

- The changes to the methodology following the recently completed five yearly review should have commenced in 2015-16 capacity year (rather than in 2014-15) to provide for a more orderly transition. There are several shortcomings with the application of the new MRCP market procedures – some of which were raised in our previous submission and others that were only identified as a result of the application of the new market procedures. We have addressed some but not all those concerns in this submission. Several of our identified shortcomings would be out of scope for the purpose of adjusting the MRCP and we intend to raise those as part of the broader reserve capacity review that is yet to commence.

- We consider that several points raised by Merredin Energy in our submission dated 3 October 2011 on the draft new market procedures PC_2011_06 were inadequately addressed in the IMO's Procedure Change Report dated 21 October 2011. Responses that dismiss issues or that simply refer to decisions previously made by the MRCPWG are unhelpful (particularly as Merredin Energy did not have representation on the MRCPWG and we had understood that the MRCPWG was a consultative committee rather than a decision making group). Responses of this nature have the potential to engender a lack of confidence in the consultation process. We recommend against such responses being prepared in relation to the current round of submissions.

- A major shortcoming with the current process is that the IMO did not (or did not have time to) assess whether the equity market risk premium and other five yearly WACC parameters needed to change. Because the market procedures provide the IMO with flexibility to adjust the five yearly parameters following a significant economic event, the IMO is duty bound to determine whether such an event has occurred. It must take that responsibility seriously.

- If the IMO was unable to make a determination in relation to a significant market event on its own, it should have commissioned a report and made that publicly available. Market participants are now left in the difficult situation where we have to argue that a market event has occurred to justify resetting the parameters rather than considering whether the restated parameters are appropriate.

- We understand that the WACC will increase based on feedback and statements from the IMO, PwC and stakeholders at the 4 January 2012 workshop. At this point, all we know is that PwC verbally suggested the 6% risk premium was too low. No alternate risk premium or supporting analysis has been put forward. This makes for an inefficient and non-transparent process. Market participants now have to comment on a parameter where we have no visibility of the IMO's position. This is like boxing at shadows.

- We strongly suggest a revised WACC report be made available for public comment prior to the final WACC and MRCP being adopted.

- The IMO's timetable for issuing a final determination by end January is overly aggressive. Issuing the draft MRCP report on 13 December 2011 and providing a one month public consultation period closing in mid January is unfair. It has been difficult for Merredin Energy (and presumably for other market participants as well) to muster appropriate resources and give due consideration to the MRCP issues over the Christmas/January period. We also question whether the current timetable provides the IMO sufficient time to consider comprehensively the points raised in this consultation process prior to publishing its final determination. This has the potential for market participants to lose confidence in the entire consultation process.

- In our view it would be far better for the IMO to take additional time to set an appropriate MRCP rather than rush the process and obtain an artificially low result. We would support the IMO extending the timetable and re-engaging with market participants where appropriate.

- The IMO's request that submissions to be limited to five pages does not appear justified. We suggest the IMO accepts all non-complying submissions. We also recommend that no such constraints be placed on future submissions.

2. Independent Advice from SKM

By way of background, Merredin Energy commissioned a detailed independent report on the MRCP from SKM in March 2011 prior to committing to build its peaking generator. In that report, SKM forecast the 2014-15 MRCP to be $251,400.

We were shocked to see that several of the MRCP input parameters determined by SKM had changed substantially over the eight months to 24 November 2011 when SKM issued its final report to the IMO.

Key issues where there are apparent inconsistencies that the IMO should investigate further include:

- SKM informed Merredin Energy that it considered the existing MRCP approach to estimating the capital cost of a power station to be inherently conservative on the basis that a median estimate of a power station was inappropriate to set a maximum reserve capacity price. SKM advised that a more typical approach would see the MRCP price cap determined by reference to an 80 percentile plant cost. We were surprised that this was not highlighted in the various SKM reports recently provided to the IMO on the procedure change proposal and the 2014-15 PC costs. Prior to setting the final MRCP for 2014-15 the IMO should seek advice from SKM on this point.

- The IMO should also commission details on the cost difference between a median and 80 percentile plant cost from SKM. It should take a pragmatic view to setting the final PC-factor that incorporates

appropriate cost allowances. On our reading of the market procedures, the IMO has sufficient flexibility to account for an 80 percentile cost in setting the PC cost component of the MRCP.

- The escalation factors (detailed in Section 2.1 of the IMO's report) are also based on a central estimate rather than a more appropriate high case. Merredin Energy questions why nominal averages are being used when the factor that is being calculated is for the Maximum Reserve Capacity Price and a reduction for this is already applied within the 15% automatic discount. Clearly the upper end of the scale should be used or the automatic discount be fully removed. To include both of these seems nonsensical and unfairly benefits unhedged retailers by discounting the MRCP.

- We also note that section 2.4.1(f) of the market procedures specify that the average unit cost for transmission connection must be scaled up by 15%. A similar factor could be incorporated for PC costs.

- At the time SKM finalised its March 2011 report to Merredin Energy, SKM did not consider water cooling feasible at all new connection sites. SKM's logic was that imposing water cooling, water connection and water storage facilities for the generic power station could increase the capital cost per MW, particularly as inlet cooling would be uneconomical at many connection points. We had understood this was a key reason the previous market procedures had not specified that water cooling be included in the generic power station specifications.

- The fact that water cooling led to an automatic 8% reduction in the MRCP for 2014-15 suggests the power station capital costs have been underestimated. Where water cooling is uneconomic, those costs must still be incorporated in the MRCP under a strict interpretation of the new market procedures. This has not occurred.

- In calculating the power station capital cost, Section 2.1 of SKM's report to the IMO states:

  > "SKM issued enquiries to main equipment OEM's requesting the submission of current budgetary pricing quotations, for OCGT equipment in the 160 MW capacity range. No responses were received from these suppliers at the time of completing the report. The project costs are therefore substantially based on historical project information and the output of the Thermoflow cost modelling."

  We initially had serious concerns regarding construction costs being understated. To find out that updated cost estimates had not been compiled by SKM makes us further question the degree of underestimation in that cost parameter.

The inconsistencies in the advice SKM provided to Merredin Energy and to the IMO is a serious concern.

3. Water Cooling

Merredin Energy is constructing an 82MW OGCT with inlet cooling. We have incurred costs around $1m in order to connect to the Water Corp network to source water. We have also incurred significant civil costs for evaporative ponds. No details have been provided for water connection costs for the generic power connection plant. Because the market procedures have moved to average land and average transmission connection costs, it follows that average water connection costs should also be adopted across all the various generic site locations. Water costs must include:

- Capital costs for water connection costs and annual operating costs that include water rates (excluding water usage); or

- Water storage costs including tanks, water transport costs for initially filling tanks to provide 14 hours continuous operation, civil works for evaporative ponds, etc.

4. Transmission connection costs

In addition to the Western Power (WP) transmission costs, Merredin Energy spent considerable funds engaging SKM to complete the necessary dynamic studies to obtain DSOC. There has been no allowance for the costs of dynamic studies or other non-WP transmission costs.

5. Fuel storage costs

In SKM's March 2011 report to Merredin Energy, SKM estimated that the fuel storage costs should total $4m. This is in line with the actual fuel costs incurred by Merredin Energy. We are therefore concerned that GHD has underestimated the fixed fuel costs.

SKM noted that a material cost component of bulk diesel fuel storage is whether the owner includes fire protection on that infrastructure and the overall specifications and quality of the fuel storage infrastructure. Any prudent owner of a peaking generator would opt for appropriate fire tanks and fire protection.

We have sought a reconciliation from SKM on the GHD fixed fuel cost report. SKM remains of the view that the overall installed fuel costs would be at least $3m and more likely up to $4m. We recommend the IMO revise the estimate to $4m and, if necessary, seek clarification the cost differences between the GHD and SKM estimates. We would be happy to provide the IMO with copies of SKM's work to facilitate that process.

6. Carbon Tax

There has been no allowance for increases in domestic construction and fuel costs associated with $23 carbon price and the other measures of the Clean Energy Act passed by the Australian Parliament last year.

7. WACC

Merredin Energy's memorandum to the IMO dated 2 January 2012 included a series of questions and supporting analysis on the WACC. The following comments on the WACC should be considered in conjunction with our previous memorandum:

- The expected rate of inflation (parameter (i)) should be derived from the difference in nominal and inflation linked bond yields published by the RBA. This methodology would be consistent with the market procedures.

- Instead, the methodology for determining expected inflation proposed by the IMO results in an artificially low real WACC. That methodology takes account of today's unusually low nominal bond yields but does not account for the low real yields on inflation linked bonds. Ignoring Commonwealth inflation linked bond yields on the basis of illiquidity will bias the WACC. It seems completely illogical that an approach to determining the debt market risk premium using illiquid Australian BBB bond yields and the non-existent AAA corporate bond yields was considered appropriate, but that Commonwealth inflation linked bond yields (which are more liquid and priced daily) should be ignored.

- The market risk premium should be well above 6.0%. We suggest it should actually be 10.1% based on the Bloomberg data set out in our memorandum of 2 January 2012.

- A market risk premium of that level is also supported by the recent academic paper *Adjusting the Market Risk Premium to Reflect the Global Financial Crisis* by Bishop, Fitzsimmons and Officer published in Finsia's Journal of Applied Finance JASSA Issue 1 2001. That paper clearly articulates that the forward market risk premium should be derived from empirical market volatility. That

paper states that the unit price of risk for estimating the CAPM parameters is 0.43 bps. The 0.43 result was based on the following:

Historical average market risk premium:	6.0% (observed)
Historical average volatility:	14.0% (observed)
Empirical risk per unit of volatility:	0.43 (calculated as 6.0% / 14.0%).

At the date of publication, Bishop et al found the market risk premium to be 9.7% based on the prevailing market volatility of 22.5%

The implied volatility of the SPI 200 futures index over the past one month period (14 December 2011 to 13 January 2012) was 24.7%. This measure of volatility is identical to that used by Bishop et al and results in a current market risk premium of 10.6% (calculated as 0.43 x 24.7%).

- We accept that the market risk premium is currently higher than usual. We also suspect the IMO may seek to take a longer term view that the market risk premium will revert to, say, 6% or 7% over the coming five years, and consider adopting some sort of weighted average market risk premium to give a market risk premium below 10%. We would caution against taking such an approach. However, if such an approach is taken, the WACC over the next five year period must remain higher than the expected long term average – otherwise providers of generation capacity would never receive compensation equal to the true 10.1 - 10.6% equity market risk premium prevailing at the present time. In our view, it would be better to set the WACC based on the higher actual equity market risk premium experienced now and change it in line with market adjustments in future years.

- As a final point on the equity market risk premium, we note that unhedged generators are fully exposed to movements in the market risk premium and other WACC factors. Participants wearing that downside risk should also participate in the upside. By design, end customers are exposed to the same risks through the retail electricity price. Because the market rules are designed that way, the increase in the equity market risk premium should be passed on via the MRCP. End customers have benefited from the fall in the risk free rate lowering the WACC. To pass through that benefit in full while protecting end users against the increase in the market risk premium creates an asymmetric payoff. This is not and has never been an intention of the market rules. We therefore recommend the full 10.1 - 10.6% equity market risk premium be incorporated in the 2014-15 MRCP.

We understand that because a significant economic event has occurred, all five yearly parameters are up for review. We have therefore commented on those other factors that are out of alignment with the market.

Asset beta:

- No justification for adopting an asset beta of 0.5 has recently been provided. This number is too low and was based on dated historical data that is unreflective of the risks associated with constructing and operating a WEM peaking generation plant. We suggest an asset beta should be at least 0.6 based on the analysis presented in our memorandum of 2 January 2012.

Debt issuance costs (parameter (d)):

- The debt issuance estimate of 0.125% pa is far too low and completely out of touch with reality. Debt issuance costs are intended to cover debt raising costs including arranger, agency, placement, company credit rating, issue credit rating, and legal fees as well as an allowance for a dealer swap margin. The proposed cost 0.125% is completely inadequate.

- An annual debt issuance cost of 0.125% is equivalent to an up front bank fee of 0.87% for ten year debt (calculated using a net present value calculation). No Australian bank would provide a ten year facility at such a low up front fee in the current market. In addition, borrowers have to reimburse the bank's legal fees for establishing the loan documentation and all other related costs mentioned above. The 0.125% allowance also ignores the potential for any ongoing costs associated with compliance or obtaining lender consents over the loan period. It also ignores the costs associated with refinancing shorter term debt. In the current market, refinancings should be expected every three to five years.

- Merredin Energy recently agreed on a $50m facility at an upfront cost of 1.6%. This equates to an annualised cost of 0.23% assuming no subsequent refinancings. Because of the construction S-curve, we also have to pay a line fee on the undrawn component of the loan. The line fee should be included in the d-factor since it is a true and actual cost of obtaining the debt finance. The absolute minimum d-factor that could possibly be justified, after legal and other costs, would be 0.3% pa.

Debt risk premium (parameter (d)):

- The debt risk premium should not decrease one percentage point from the value adopted in the 2013-14 capacity year. Credit default swap rates, which represent the wholesale funding costs for Australian banks, have recently increased. Furthermore, the decrease in competition for loans has increased bank loan margins. The Basel III banking reforms are likely to see loan tenors decrease and loan costs increase, putting further pressure on the ten-year debt risk premium.

- The proposed methodology for determining the debt risk premium is flawed. It depends on historical AAA corporate bond yields which are non-existent in today's market and in any case the historical data is not relevant to the current cost of debt.

- The proposed debt risk premium methodology is also based on a flawed assumption that the yield differential between seven and ten year AAA corporate bonds should be identical to the yield differential applying to BBB bonds in today's market. A simple analysis of historical Commonwealth Government, AA and BBB yield curves shows that those curves are not parallel.

- Calculating the debt risk premium using AAA corporate bonds cannot be used for future calculations as Bloomberg is unable to provide relevant yield data. Shouldn't the IMO look at a better solution this year rather than waiting until next year when the methodology will have to be revised anyway?

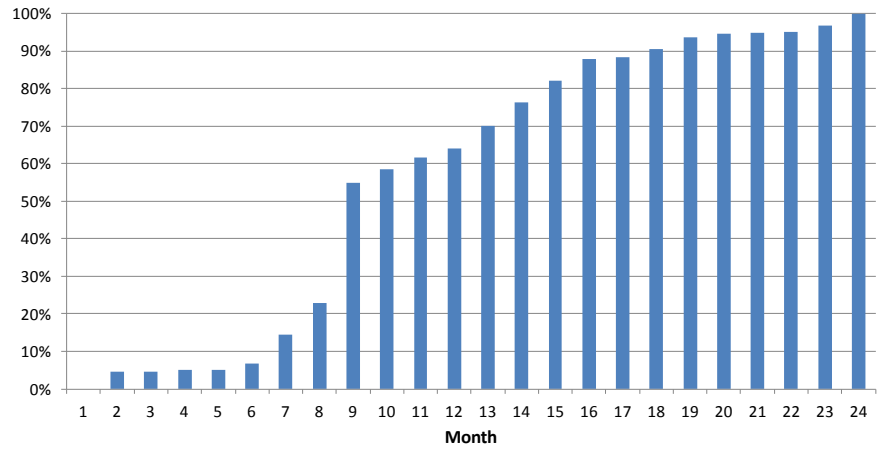
- According to the market procedures, the debt risk premium is to be consistent with accepted Australian regulatory practice and take into account decisions of the Australian Competition Tribunal. In January 2012, the Australian Competition Tribunal made a decision in favour of gas distributor Envestra, who successfully appealed against the Australian Energy Regulator's determination. The Tribunal found that the regulator's sole reliance on the extrapolated Bloomberg value to calculate the debt risk premium to be erroneous, with the Tribunal adopting a debt risk premium of 4.67% based on analysis to mid 2011. This should be the absolute floor for the MRCP debt risk premium. In our view and accounting for recent development in capital markets, a debt risk margin of 5.25% (equal to that adopted by the IMO last year) would be acceptable.

8. WACC Period

Under the new market rules, the gross-up WACC period has been reduced from 24 months to 6 months.

The following graph for the Merredin Energy 82MW Power Plant (currently in month 18 of its construction phase) clearly shows that over 50% of the total project costs were spent in the first nine months of the project.

Graph 1: Merredin Energy – Open Cycle Gas Turbine S-curve



Merredin Energy previously suggested a 14 month gross up period be used rather than the proposed six months for the timeframe of the WACC. The graph above shows that it is completely unrealistic to assume no money spent in the first 12 months of a project. In deriving a six month period, PwC assumed a 12 month construction spend period, with construction completed the same day that capacity revenues commence. Prudent planning and construction timetables include buffers for testing periods and appropriate delay contingencies. Our view is that the six month period should be increased. The current WACC gross-up calculation also fails to recognise that equity is fully exposed to risks during the 24 month construction and commissioning period. Because equity is exposed during that full two year period, it should earn a risk premium for that entire period. Based on a 14 month average spend period, the true cost of capital during the two year development phase is:

$$(1 + \text{WACC})^{14/12} \times (1 + \text{WACC} - \text{risk free})^{10/12}$$

An adjustment to the capital raising costs within Margin (M) should be made to correct for this anomaly.

9. Annual Operating Insurance Costs

The IMO generally seeks to maintain an open and transparent process for setting the MRCP, with all the relevant consultant reports available via its website. However, it fell well short of its usual standard, having failed to commission or publish insurance reports.

It appears that the annual insurance costs are based on some informal conversations with insurance brokers. This is no way to set the MRCP parameters. We have no visibility on the policy exclusions or the deductibles that would apply.

Merredin Energy's insurance broker Jardine Lloyd Thompson (JLT) provided us with a detailed estimate of insurance costs for asset replacement and business interruption. JLT's advice is that premiums should total $600,000 equivalent to 0.43% of the insured value for a generic 160 MW peaking plant. This cost excludes terrorism levy, stamp duty and GST and calculated on the following basis:

- 160MW OCGT generation plant with inlet cooling and an insured value equal to the MRCP power station capacity cost
- the assets are newly constructed and located in rural Western Australia below 26 degrees latitude
- the plant is diesel powered

- the retention levels are $500,000 for property damage, 45 days for business interruption and $100,000 for third party liability apply.

The quoted premium of $600,000 is almost twice the IMO's cost estimate of $321,000 for the asset replacement and business interruption insurance.

10. Construction insurance

Under the new market procedures, construction insurances have been removed from the Margin (M) and included in the EPC estimate, with no reduction intended in the overall level of construction insurance.

The reality is that the overall cost of insurance premiums have reduced the MRCP. No explicit allowance has been made in the EPC for insurance costs. To illustrate how far removed the insurance estimates are from reality we are prepared to disclose the specific insurance arrangements for Merredin Energy.

Merredin Energy has contracted with CTEC to undertake all construction works under a turnkey EPC contract. Under the EPC contract, CTEC maintains its own insurances for the following items:

- Professional Indemnity Insurance
- Workers' Compensation Insurance
- Motor Vehicle Insurance
- Property Insurance for the full replacement value of and covering contractor's plant and equipment
- Any other insurance or cover required by law

In addition to indirectly coving a portion of the CTEC's overhead insurance costs via the EPC price, Merredin Energy has had to take out the following insurance cover during construction:

- Construction Material Damage
- Construction Advanced Business Interruption
- Construction Liability (General and Products Liability)
- Construction Marine Cargo & Marine Advanced Business Interruption
- Directors and Officers Insurance

Merredin Energy's insurance premiums for the above policies totalled $600,000 in our first year of construction. By the time construction finishes, a second full year of premiums will have been incurred, bringing our direct construction insurance costs to around $1m (or $12,000 per MW). This significantly exceeds the provision made by SKM in its M factor of only $3,200 per MW. SKM's estimate would barely cover the marine insurance for shipping turbines from Europe.

We would question whether SKM are appropriately qualified to opine on insurance. We recommend that the IMO undertakes further work to ensure the insurance component of the Margin (M) is set at a more reasonable level prior to finalising the 2014-15 MRCP.

11. Margin (M)

We were surprised to see project management, legal costs and owners engineering costs reduce slightly in percentage terms particularly as the scope of works now extend to include water cooling and related infrastructure. The upfront legal costs associated with registration and compliance with the Clean Energy Act should have added to legal costs, not reduced them. We recommend that those costs be reassessed.

The proposed 3.0% allowance for financing costs was based on SKM's opinion that:

> "3% is considered consistent with the 4% allowance applied in 2010, deducting an approximate amount for the debt issuance costs that have been removed." See section 6.4 of SKM's report to the IMO dated 24 Nov 2011.

Under the proposed WACC, debt issuance costs total 0.125% pa on the 40% enterprise value that is debt funded. This results in an annual debt financing cost of only 0.05% pa of the enterprise value.

Assuming that cost applies for 15 years, the net present value of that cost is 0.45%, well below the 1% reduction (from 4% to 3%) suggested by SKM. SKM's calculations were erroneous and, using their own logic, the correct calculation should result in a 3.55% capital raising cost (before adjusting for the WACC gross-up detailed in section 8 of this submission).

Moving debt issuance costs from Margin to the WACC should not reduce the MRCP. This is the same problem experienced with moving the insurance premiums from the Margin to the EPC contract. There is no magic pudding. The MRCP should not drop simply because costs are reshuffled.

12. Stamp duty on land acquisition

No allowance has been made for stamp duty on the land acquisition.

Section 2.2.1 of the market procedure states "The Maximum Reserve Capacity Price must include all reasonable costs expected to be incurred in the development of the Power Station". On that basis, Margin M should specifically include stamp duty.

13. Gross up for Goods and Services Tax

Where a WEM generator is unable to claim the full amount of the GST, the costs should be grossed up for that portion of GST.

GST can not be fully claimed for the following items:

- Equity raising fees. These should be grossed up by 1.10.
- Debt raising fees. These should be grossed up by 1.025 to account for reduced input tax credits.
- Accounting, legal and other fees pertaining to establishment, equity raising and debt raising costs.

The relevant Margin and WACC factors should be grossed up to account for GST leakage.
