

1 June 2023

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Reserve Capacity Mechanism Review

The term “unprecedented” has been rather discredited by overuse but it most certainly applies to the energy transformation process currently underway. The entire base-load fleet of coal-fired generators is to be removed from service in something less than 10 years. This is to be replaced by intermittent generation and the main centre of generation is to be replaced by a range of different production locations. To achieve success, a substantial number of new generation projects will need to simultaneously progress, on schedule, through the processes of planning, financing, approvals, construction and connection to the grid. Concurrently, substantial changes to the transmission network are required to provide access to these new production locations.

Further, we are planning to operate the system primarily with intermittent generation supported by storage and firming gas fired plant. This is an operating pattern for which virtually no significant experience is available either nationally or internationally.

Given the broad range of activities that need to be addressed to achieve success, Perth Energy considers that every reasonable effort should be made to minimise the risks facing the transformation. It is with this in mind that we have put forward several general comments before addressing the specific matters in the Consultation Paper.

General Comments

The need to sustain public support.

While support for the energy transition appears to be strong, it is clear that many members of the public are not prepared to make any significant sacrifice to achieve this. The rising level of protest against renewable energy installations, and associated transmission lines, being a case in point.

If the transition is to run smoothly it is critical that we seek to balance all three legs of the “trilemma”:

- Sustainable energy supply
- Reliable energy supply; and
- Affordable energy supply.



Unless this balance is maintained, there will be public opposition that will potentially put the whole process at risk. The need for reliable supply is the focus of Perth Energy's general comments.

De-risking of the transformation process

Closure of Synergy and Bluewaters coal fired plant will progressively remove around 1300 MW of capacity from the system. Replacement of this by multiple projects delivering windfarms, batteries and some gas firming plant will require a succession of new developments to be put in place as well as transmission access being available. Relying on every one of these new projects being delivered into the market on-time, to ensure that reliability targets are not breached, will be a massive challenge.

Perth Energy suggests that the risk of shortfall could be reduced if an additional MW reserve margin is added to the reserve capacity target through this period. One option would be to add a margin equivalent to the largest new committed project (in case this is not delivered on time). An alternative would be to add a margin equal in size to the next generating unit scheduled for closure (in case it exits the market early).

While this approach would marginally increase the cost of supply during the transition period it would have the benefit of substantially reducing the risk of under-supply and associated supply restrictions. It would also reduce the risk of needing to defer closure of coal plant which, given recent fuel supply issues, may not even be practical. To minimise costs, a dynamic approach could be adopted with the margin being implemented, or reduced, based on successful completion of new projects.

The danger of seeking absolute certainty

Western Power, rightly, has a rigorous approach to assessing whether it can allow a new generator access to the transmission system. AEMO also has a scrupulous approach to ensure that an applicant for certified capacity has met every requirement in full. AEMO and Western Power should be actively seeking to encourage new projects through this period, however, Perth Energy is concerned that the desire for absolute certainty is overriding the objective of delivering adequate new capacity.

An approach where some "calculated risk" is adopted in assigning network access and certification to proposed new generation, especially if linked with an additional margin on the reserve capacity requirement, is more appropriate over the transition period. A good example of "calculated risk" is Proposal G of the Consultation Paper whereby a demand side program can be certified on the basis that the required Associated Loads will be secured by the start of the relevant capacity year even though these have not yet been identified.

We note that Western Power is changing its practices to align with the reduced requirements associated with the new constrained access arrangements but suggest that Energy Policy help Western Power and AEMO review their respective requirements to ensure that these are appropriate for the transition situation.

The most recent projections from AEMO show the profound impact of major new loads. We suggest that there may need to be some mechanism to adjust final capacity requirements once these major loads are locked in place.



Ensuring the reserve capacity mechanism encourages new capacity

The RCM has not been a major factor in drawing new capacity into the SWIS over the past decade. New capacity has been brought into the market through energy sales contracts, renewable support mechanisms and Government edict. Critical to this failure is, in our opinion, the inability for investors to be assured of securing adequate returns due to risks that are outside their ability to manage.

Perth Energy acknowledges that EPWA is looking at the linkage between the Reserve Capacity Price (RCP) and the level of capacity shortfall or excess which is a major unmanageable risk for an investor. We note the Minister's statement that there will be a steeper rise in RCP when there is a shortfall on the system to encourage investment. This is good but, because it is not predictable, it will only have a limited impact as investors seek finance for new developments. The fact that the RCP falls away as soon as there is any excess creates the perverse incentive for investors to make sure that capacity is always short.

Perth Energy suggests that there should be a "dead band" such that the RCP is set at the benchmark RCP as long as capacity is within a band of, say, 10% above or below the reserve capacity target. Investors will then be assured that a small level of excess capacity will not put their financial investment case at risk. The level of the "dead band" could be adjusted through the transition based on experience.

We further suggest that during the transition period all new firming capacity, irrespective of its technology, should be assigned a firm capacity price for 10 years to allow investors sufficient predictable revenue to support an investment decision.

Review the 14-hour fuel storage issue.

Perth Energy acknowledges that this matter has been discussed extensively. In our opinion, however, it is adding unnecessary costs, while not solving the fuel security issue, and needs to be revisited. At the very least, AEMO should be required to clarify how its current procedures will guarantee fuel supply certainty.

We agree that "*recent fuel supply issues illustrate the importance of fuel availability*" but we suggest that these issues also show the failure of attempting to ensure fuel adequacy through the reserve capacity mechanism. The stations that recently ran short of fuel fully complied at the time of certification with long term supply contracts as well as significant on-site fuel stockpiles. However, some two to three years later they had insufficient supply.

Gas fired plant has had very few issues, in part because the gas industry has developed dynamic supply and transport trading arrangements. AEMO's interpretation of the 14-hour obligation, however, is putting a heavy, yet unnecessary, burden on gas fired plant leading to increased prices.

We suggest that generators should still provide information about their fuel supply and transport security policies at certification, which may or may not include firm supply. However, AEMO should concentrate on assessing supply security closer to real time, along the lines of an MT PASA type forecast. Firming generators should be required to demonstrate fuel supply adequacy, say, six months ahead of the peak demand period or a forecast low wind period. Flexible generators should do this six months ahead of the shoulder seasons.



Comments on Stage 2 Proposals

IRCR for Peak Capacity

Proposal A:

Continue to set participant IRCR based on contribution to load in high demand intervals. Following further consideration of the target EUE percentage, EPWA has included a new proposal to reduce the EUE percentage in the Stage 2 Consultation Paper.

Perth Energy supports participant IRCR continuing to be set on their contribution in high demand intervals. As noted above, Perth Energy considers that we should take a conservative approach to setting reserve capacity targets during the transition period. As such, we support changing the EUE percentage as proposed.

Proposal B:

Retain the current approach of using only intervals in the Hot Season (Trading Days from 1 December to 31 March) to set IRCR.

Amend the IRCR interval selection provisions to ensure that:

- *all 12 highest demand intervals in the Hot Season are selected;*
- *intervals on a minimum of three days are selected; and*
- *where the peak intervals occurring on each day are not contiguous, the intervening intervals are selected.*

The Coordinator's review of the WEM effectiveness will include reviewing whether extreme demand events are forecast to occur outside the hot season.

Perth Energy supports this proposal.

Proposal C:

Remove Temperature Dependent Load (TDL) / Non-Temperature Dependent Load (NTDL) multipliers from the IRCR process.

Perth Energy supports this proposal.

Proposal D:

Calculate IRCR on a daily basis.

Set representative load for new meters based on the maximum of the median demand in the four peak intervals of any prior calendar month.

Perth Energy supports this proposal.

IRCR for Peak Capacity

Proposal E:

Set participant IRCR for flexible capacity based on the load shape in high ramp periods.



Perth Energy supports this proposal.

Proposal F:

Set IRCR for flexible capacity based on the three days with the highest four-hour upwards ramp at any time during the year.

Require AEMO to publish the forecast ramp so that consumers can monitor and respond to the cost signal.

Perth Energy supports this proposal.

DSP CRC

Proposal G:

Where a DSP has:

- *the same Associated Loads that it had in the previous year, assign CRC based on IRCR of the Associated Loads less the minimum load requirement of the Associated Loads; and*
- *different Associated Loads from the previous year, assign CRC based on a value nominated by the Market Participant.*

Perth Energy supports this proposal.

Proposal H:

Remove Consumption Deviation Applications (CDAs) from the assessment of DSP CRC.

Perth Energy supports this proposal.

Proposal I:

Allow sites with collocated load and generation or storage to be Associated Loads of a DSP.

Perth Energy supports this proposal.

Proposal J:

Adopt a dynamic baseline to measure DSP dispatch performance against.

Continue to assess the detailed dynamic baseline methodology.

Consider reducing the number of hours that DSPs can be dispatched.

Perth Energy supports this proposal.

Testing

Proposal K:

Require facilities holding flexible capacity credits to be tested for start, stop, restart, and minimum running times; ramp capability; and minimum stable loading level.

Allow facilities to pass flexible capacity tests by observation.



Require AEMO to schedule tests of flexible capacity characteristics to coincide with tests for peak capacity.

Perth Energy supports the proposal to test compliance of flexible plant by observation. We do not see this necessarily being undertaken at the same time as capacity testing as the two obligations are somewhat different. Perth Energy also suggests that dual fuel, distillate-natural gas plants, should be allowed to demonstrate their flexibility compliance on the fuel that more fully reflects their expected flexible operating pattern.

We note, too, that the specific obligations for flexible plant have not yet been established. We consider that these should be determined through a consultative process to ensure that they are appropriate and allow all reasonable providers to comply.

Proposal L:

Adjust Reserve Capacity Testing for DSPs to reflect a shift to a dynamic dispatch baseline.

Require AEMO to consider the expected baseline when scheduling DSP tests.

Treat a failed test as the beginning of a Forced Outage, rather than a permanent reduction of Capacity Credits.

Perth Energy supports this proposal.

Outage Planning

Proposal M:

Amend the outage planning process so that AEMO considers availability of both peak and flexible capacity when assessing and approving outages.

Perth Energy supports this proposal.

Proposal N:

Require flexible capacity holders to lodge outages relating to capability to provide flexible capacity.

Perth Energy supports this proposal.

Proposal O:

Allow DSP owners to manage their own outage schedules, without participating in the outage planning regime.

Adjust DSP availability measurement to use actual demand of the Associated Loads rather than the Relevant Demand.

Perth Energy supports this proposal.

Refunds

Proposal P:



Capacity refunds for both peak capacity and flexible capacity will be paid from a single pool of capacity payments.

Capacity refunds for flexible capacity will be capped at a set portion of total capacity revenues.

This proposal needs to be thought through a little more. A plant that experiences high levels of unavailability can be required to refund its full reserve capacity payments and, because of the dynamic refund charge, this may occur well before the end of the capacity year. The risk in having all refunds paid in this way is that there may be limited incentive for a plant to continue to provide the flexibility service during August or September when the requirement may be high.

Some refund obligation must be left with flexible providers through to the end of the capacity year. This may require flexibility refunds to be capped in some way.

Proposal Q:

Calculate a dynamic refund multiplier for flexible capacity based on a comparison of the actual ramp requirement in the interval and the ramp rate used to set the flexible capacity Reserve Capacity Requirement (RCR).

Apply the greater of the peak and flexible multipliers to refunds for facilities supplying both capacity products.

Require AEMO to publish the projected load ramp rate alongside the load forecast.

Perth Energy does not support setting refunds based on the greater of the peak and flexible refunds for plants that supply both. These are different services and, as noted above, they are expected to be delivered in different seasons. The refund mechanism must ensure that each service is appropriately incentivized and, as noted above, that the incentive to deliver flexibility remains for the full capacity year.

Proposal R:

Amend the Maximum Facility Refund for DSPs to include the DSM Reserve Capacity Security.

DSPs which voluntarily surrender Capacity Credits during the Capacity Year will forfeit their DSM Reserve Capacity Security in proportion to the amount of the reduction.

Perth Energy supports this proposal.

Proposal S:

Distribute collected capacity refunds to participants, responsible for loads, rather than other capacity providers.

Perth Energy supports this proposal.

The EUE Target in the Planning Criterion

Proposal T:



Amend the target EUE percentage in the second limb of the RCM Planning Criterion to 0.0002% of annual energy consumption.

Perth Energy supports this proposal. As outlined in our General Comments, Perth Energy also supports raising the reserve capacity target during the transformation process to minimize customer supply risk arising from failure of new capacity to be delivered on time.

Determination of the BRCP Technology

Proposal U:

The WEM Rules will continue to define the BRCP as the per MW capital cost of the new entrant technology with the lowest expected capital cost amortized over the expected life of the facility.

A separate BRCP will be calculated for each of the peak capacity and flexible capacity products.

The two capacity products may have different underlying reference technologies, not just different cost components.

The Coordinator will review the appropriate reference technology for each capacity product and, consequently, the use of gross CONE or net CONE to set the BRCP, in 2024.

The Coordinator must review the reference technology and the use of a gross or net CONE approach at least every five years, and may review it more frequently if the Coordinator considers that it has changed considerably.

Perth Energy supports this proposal.

Continuing consultation

Perth Energy would like to acknowledge the Government's continuing commitment to consultation through working groups, briefings, one-on-one discussions and other processes. We appreciate the hard work that is put into this process and thank Energy Policy WA and Minister Johnston for this level of interaction. Perth Energy is happy to continue contributing to the development process in whatever way it can.

Should you have any questions in relation to this submission please contact me on 0437 209 972 or at p.peake@perthenergy.com.au.

Kind regards,

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