

Electricity Market Review  
Response to Position Paper on Reforms to the Reserve Capacity Mechanism

Via email: [electricitymarketreview@finance.wa.gov.au](mailto:electricitymarketreview@finance.wa.gov.au)

## 1. Introduction

BGC (Australia) Pty Ltd, "BGC", contributes to housing affordability in Western Australia by manufacturing construction materials with plant that requires power from the local electricity network.

We are one of the largest manufacturers of building products in WA and consistently one of the largest home-builders by volume.

This takes a lot of energy to achieve. Collectively, BGC has a peak load of approximately 20MW across 35 contestable loads. We have 160 non-contestable loads, and we connect more than 3,000 new electrical loads each year through our new housing.

We support reviews and updates of Government policy to drive efficiency and continuous improvement. We support the Electricity Market Review that was initiated in March 2014.

However we are frankly disappointed with the bias against Demand Side Management (DSM) shown in the position paper '*Reforms to the Reserve Capacity Mechanism*' (RCM), and of the failure to address true reform more generally.

BGC offers the following feedback as an indirect market participant, but one that is greatly affected by the Government's majority stakeholding in the electricity market and the self-serving agenda of the electricity generation lobby.

## 2. "Excess capacity"

The whole premise for reform of the RCM is centred on excess capacity, which according to the latest forecast is 1,061 megawatts<sup>1</sup>.

This figure represents installed capacity. It does not reflect actual availability after accounting for both planned and forced outages.

According to Economic Regulation Authority data on quantities of outages relative to capacity<sup>2</sup>, there was 370MW of generation capacity on planned outage and 300MW on forced outage (totalling 670MW), and therefore unavailable in 2014/15. Just three months ago, as shown on the AEMO website<sup>3</sup>, generation capacity in excess of 900MW was on outage (forced or planned) for the majority of the month.

Is there really 1,061 megawatts of (available) excess capacity? Is this capacity available when it is required?



**Figure 1.** WA generator outages, November 2015.

For business, some excess capacity is a good thing because it serves as an insurance policy against supply shortages.

The ‘energy-crisis’ that stemmed from the Varanus Island explosion of 2008 is burned in our memories. It showed what happens when you over rely on certain types of fuel-linked capacity and don’t have enough to share around when it goes down. WA has since had several Dampier-Bunbury Gas Pipeline supply constraints. Unionised labour strikes at a coal fired power station threatened electricity supplies in 2014<sup>4</sup>. What is the future of Griffin Coal? Stochastic events have, and will continue to occur in less than 1-in-10 year intervals.

But markets move too. It wasn’t even ten years ago when BGC was asked to offer up some of its capacity as ‘supplementary reserve’ because there was a shortfall of capacity in the market more broadly. This ‘excess’ was always coming. Reform needs to take a longer-term view and avoid short-term knee-jerk reactions such as removing an entire form of capacity from the market.

### 3. The cost of “excess capacity”

The Position Paper estimates that the cost of excess capacity will be \$116m in 2016-17. It is not clear how this was calculated. When the cost of excess capacity was estimated in Stage 1 of the Electricity Market Review it was subsequently identified by the (then) Independent Market Operator as a material overestimate of the true cost<sup>5</sup>.

DSM is criticised for getting paid to be available but rarely used. But compare 560MW of DSM to the 670+MW of generation capacity that was on outage in 2014/15 and therefore **not available** to the system for support, and still gets paid by virtue of their existence. Previous attempts to compel generators to increase their availability have proven futile<sup>6</sup>.

Whatever the cost may be, the Paper states that it *“imposes a substantial cost on electricity customers”*.

BGC purchases most of its electricity from the contestable retail market. If there is more capacity registered than is actually required it has the impact of **reducing** the cost component on a pro-rata basis – as the price for each MW of capacity falls. The cost of capacity is passed through directly on an unbundled component basis, or built into the tariff.

Given the healthy level of competition that exists in the contestable retail market, it implies that this substantial cost must be incurred in the non-contestable market, by Synergy and its shareholder, the WA Government. This is probably due to Synergy's historical commercial arrangements as it was pulled apart and put back together again, plus its consumption-based pricing model that has been broken by roof-top solar, not the Reserve Capacity Mechanism. There has been plenty of time to address this, but no one has.

Don't penalise a competitive market that works just because you made mistakes in another market segment.

***Recommendation: Demonstrate where the cost of excess capacity is being incurred so reform can be appropriately targeted.***

The solutions proposed to address the cost of excess capacity by the Position Paper are:

- 1) Move to a capacity auction;
- 2) Steepen the slope of the capacity price curve; and
- 3) In-effect, remove Demand Side Management from the definition of "Capacity".

#### **4. Reserve Capacity Auction**

Half of the Position Paper is dedicated to an auction structure that it acknowledges is unlikely to occur for 10 years. It renders the discussion as effectively moot. The electricity sector is likely to be a lot different in 10 years time than it is now. It is difficult for BGC to consider this discussion with no practical consequence.

#### **5. Adjust the slope of the pricing curve to n - 5**

BGC supports an adjustment to the pricing curve such that it becomes steeper under a 'n-5' scenario.

It would be good for business by further decreasing the overall capacity charges in the short to mid term, though it would need the flexibility to be reviewed and altered as the market moves through cycles.

While a 'n-5' pricing curve is likely to send an appropriate signal to discourage investment in *future* excess capacity, it could effectively protect existing capacity which may not be in the State's longer-term strategic interest.

If other drivers are not strong enough to encourage replacement of increasingly obsolete generation technologies with modern day versions as the world transitions into a cleaner energy future, inclusive of renewable energy targets, then it will be creating a problem for a future Government.

***Recommendation: Implement the n-5 pricing curve but concurrently build in the flexibility to change it periodically as the market moves through cycles.***

## **6. Demand Side Management**

The Position Paper prioritises the removal of DSM above any other solution to reduce the current excess capacity. It is the only direct solution discussed, apart from hoping the indirect 'n-5' price curve and modest tweaks to the refund regime will encourage retirement of existing capacity.

The paper is silent on dealing with excess capacity from the significant growth in peaking generators that mostly remain idle, or the 670MW of total generation capacity that was completely unavailable in 2014/15.

Even if the Government were able to remove all 560MW of capacity credits from Demand Side Management, it would only amount to around half of the apparent 1,061 MW in excess of the Reserve Capacity Requirement. Or half of a solution.

The market should remain agnostic about where the capacity comes from. A demand response is equivalent to a supply response. The proposal to carve out DSM is a discriminatory short-term fix and is anti-competitive.

What is worse, however, is the biased messaging of the Electricity Market Review Panel on the day the position paper was released, labelling big business that participate in DSM programs as "rent-seekers"<sup>6</sup>. Such labelling of participants is insulting, misleading, and disingenuous. BGC offers around 5MW of DSM each year, depending on its index. Nothing has been said about the 277MW of Synergy generation capacity that was on planned outage but still got paid in 2014/15, and as much as 675MW in 2010/11, nor any commentary made about peaking plant bilaterally contracted with Synergy that sits idle in Perth's northern suburbs.

The cost of capacity will go down with the implementation of the 'n-5' pricing curve, but it won't go down as much if you push Demand Side Management out. All it will result in is a transfer of capacity payments to generators for doing exactly what they do now. If DSM participants are rent-seekers, then generators are bigger rent-seekers, seeking to become even bigger.

## **7. Better ways to manage demand side management**

Rather than throw the baby out with the bath water there are constructive ways to improve demand side management.

### **7.1 Real-time Telemetry**

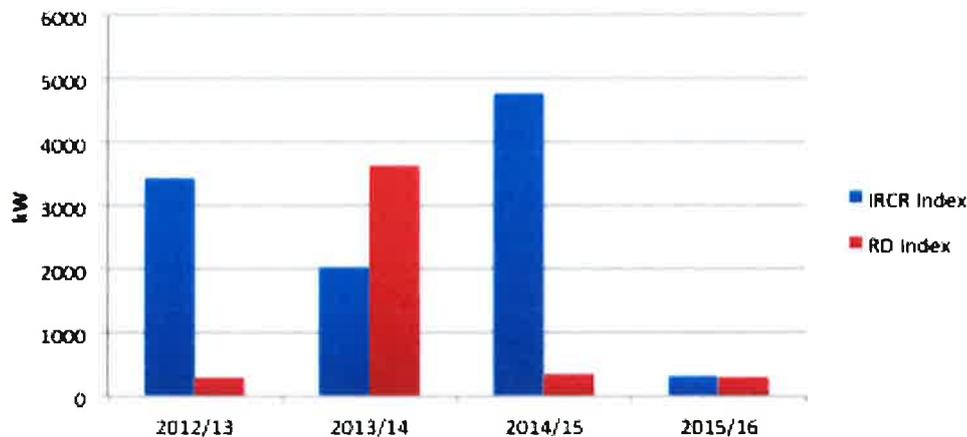
The position paper states the system operator does not have real-time information on the availability and performance of demand side capacity, which reduces the operator's confidence in, and ability to, dispatch it.

There is no specification on what this telemetry might entail. If the system operator is able to take a pulse off the same electricity meter that forms the basis of all charges for capacity, consumption, network and administrative overhead fees that are placed on business, then BGC would support it. It is what is in place already with at least one aggregator. If this recommendation amounts to a requirement for some other technology such as SCADA that becomes a more expensive barrier to entry, then BGC would not support it.

## 7.2 Capacity Baselines

This is an area that needs to be fixed. The market levies capacity charges on the *Individual Reserve Capacity Requirement* when the electricity grid is at its yearly peak but sets the baseline for demand side capacity with a *Relevant Demand* index, based on monthly summer peaks. It's an implicit hegemony against DSM that has most value when the grid is peaking and it has created some perverse outcomes for both BGC and the market over the years. For example our cement plant in Kwinana (Fig 2).

### Comparison of Capacity Indices of a Cement Plant in Kwinana



**Figure 2.** Comparison of charge basis for Capacity (IRCR Index) versus DSM-reimbursement basis (RD index) at BGC's cement plant in Kwinana. Note the Market Operator does not recognise Christmas shutdowns as an atypical load profile, however if DSM were a generator it could call the period a "planned outage" and still get paid.

Its important to note that ***it is the user of electricity in the fully functioning contestable market that pays for capacity***. But given the conservative Relevant Demand formula, the user only gets a little bit of this back for agreeing to forego some of what it pays for in the first place.

It is difficult for BGC to gauge its exposure to the newly proposed Relevant Demand index methodology without insight into the top 200 peak hours of the grid. BGC does not support exacerbating the current discrepancy even further. Ideally, the index for DSM should reflect the performance of a load when delivering its demand response.

**Recommendation: Align the Relevant Demand index to accurately reflect the performance of a load when providing DSM.**

When you examine the Relevant Demand index periods over the past few years it is apparent that at least one or two of the four monthly indices fall in holiday periods, when most businesses are not operating (Table 1). This suggests that one of the most significant drivers of the grid peak is residential loads, and most plausibly, air conditioners. It's why Synergy has a problem.

**Table1.** Relevant Demand intervals fall often fall in periods where business is shutdown & residential loads are high.

Capacity Year	Effective Date	RD_ Day_1	RD_ Start_1	RD_ End_1	RD_ Day_2	RD_ Start_2	RD_ End_2	RD_ Day_3	RD_ Start_3	RD_ End_3	RD_ Day_4	RD_ Start_4	RD_ End_4
2009/10	1-Oct-09	31/Dec/08 (Wed)	14:00	17:30	16/Jan/09 (Fri)	12:00	15:30	02/Feb/09 (Mon)	12:30	16:00	10/Mar/09 (Tue)	13:00	16:30
2010/11	1-Oct-10	21/Dec/09 (Mon)	13:30	17:00	18/Jan/10 (Mon)	13:30	17:00	25/Feb/10 (Thu)	14:00	17:30	12/Mar/10 (Fri)	13:30	17:00
2011/12	1-Oct-11	24/Dec/10 (Fri)	13:30	17:00	28/Jan/11 (Fri)	13:00	16:30	25/Feb/11 (Fri)	13:00	16:30	01/Mar/11 (Tue)	15:00	18:30
2012/13	1-Oct-12	28/Dec/11 (Wed)	15:00	18:30	25/Jan/12 (Wed)	14:00	17:30	22/Feb/12 (Wed)	13:30	17:00	06/Mar/12 (Tue)	14:30	18:00
2013/14	1-Oct-13	31/Dec/12 (Mon)	14:00	17:30	07/Jan/13 (Mon)	15:00	18:30	12/Feb/13 (Tue)	14:00	17:30	01/Mar/13 (Fri)	14:30	18:00
2014/15	1-Oct-14	16/Dec/13 (Mon)	14:30	18:00	21/Jan/14 (Tue)	15:30	19:00	20/Feb/14 (Thu)	15:30	19:00	07/Mar/14 (Fri)	14:00	17:30
2015/16	1-Oct-15	30/Dec/14 (Tue)	14:00	17:30	05/Jan/15 (Mon)	14:00	17:30	25/Feb/15 (Wed)	15:00	18:30	12/Mar/15 (Thu)	15:30	19:00
2016/17	1-Oct-16	23/Dec/15 (Wed)	14:00	17:30									

- Typical business shutdown periods
- Day adjacent to public holiday

BGC’s Kwinana plant has two cement mills that require 6,000kW to run. By pressing the off button, it enables 1,500 homes to keep their lights **and air-conditioners** on when the grid is peaking in the summer heat. DSM participants are entitled to consume electricity whenever they want to, including when all those air-conditioners are on, so participants are actually doing taxpayers a favour by delaying the need to install new peak generating capacity.

Incidentally the Kwinana area was, until recently, one of several areas on the grid where the ability of Western Power’s infrastructure to distribute capacity was in shortfall. Despite the apparent excess of capacity in the market, it couldn’t get to the points where it was needed to perform work. Western Power puts affected businesses on curtailable supply regime, which means it could turn them off at any point, yet it still charges the uninterruptible firm-supply tariff.

**Recommendation: Demand Side Management needs to be fairly recognised in Western Power’s tariff structures as well as in the capacity market.**

### 7.3 Quantum of Capacity

Payments for DSM capacity are calculated from the delta between the Relevant Demand index, and what the business curtails to in a dispatch test or dispatch event. The timing of the dispatch test could be improved as it is currently at the discretion of the customer or aggregator. If the market operator were to call the test (with reasonable notice) it would be more reflective of the true ability of DSM participants to participate at any point in time. It would also nullify the argument from generators that DSM is not real.

#### 7.4 Treating DSM like a Generator

Unlike generators, DSM does useful things when it is not being used like contributing to the State's GDP. It should not be treated like a generator because it is not a generator. The proposal to dispatch it in "near real time" would not work for a large part of this resource. Time is required to wind certain plant down and schedule the re-allocation of employees to other useful purposes. You could potentially segment some loads like crushers to "near real time", but given the sophistication of the tools that can see grid peaks coming, it would be more sensible to fully utilise the resource with a few hours lead time as it does presently. The proposed earliest start and latest finish times would easily be accommodated.

The proposal to dispatch DSM for 200 hours a year is not sensible as business would be better off dispatching itself in six-hour blocks for the 30 hottest days that total 200 hours and completely avoid index periods that would otherwise constitute its capacity charge. The electricity grid has not peaked for 12 consecutive hours on any day so does not warrant DSM to be dispatched that long.

#### 8. Conclusion

Reform seems to have given way to the fixing of Synergy for mistakes it has made, not by the business community. Other retailers with a generation portfolio or bilateral contracts that are overtly or otherwise campaigning against DSM should remember that we *currently* spend many millions of dollars on electricity and gas through them each year. If DSM is removed, it will necessitate business to look at other options such as self-generation behind the meter. Be careful what you wish for.

Yours sincerely,

Sam Buckeridge  
**EXECUTIVE DIRECTOR**

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