Prohibition and Restriction on Synergy and Verve Energy under the *Electricity Corporations Act 2005*

Final Report

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Contents

Introduction

On 1 December 2010, Western Australia's (**WA**) Minister for Energy (**Minister**) requested that the Economic Regulation Authority (**Authority**) provide its views to the Minister about the effect that the operation of sections 38(1) and 47(1) of the *Electricity Corporations Act 2005* (**Act**) have had, and are likely to have, on the encouragement of competition in the generation, retail and wholesale electricity markets.[1] Section 38(1) of the Act restricts the Electricity Generation Corporation (Verve Energy) from the direct sale of electricity to consumers for a designated period[2] (herein referred to as the 'Restriction') and section 47(1) prohibits the Electricity Retail Corporation (Synergy) from generating electricity for a designated period[3] (herein referred to as the 'Prohibition').

In this report, the Authority presents its findings to the Minister regarding the effect that the Restriction and Prohibition have had, and are likely to have, on the encouragement of competition in the electricity market. In assessing the legislation, the Authority has considered whether the Prohibition and Restriction should lapse at 2013 or be extended to 2016.

In preparing this report, and in forming the views set out in it, the Authority has considered the comments raised in the submissions provided to the Authority in response to the Issues Paper.[4] The ten submissions are available on the Authority's website.[5] The Authority also engaged a consultant to assist in preparing this report.[6]

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[1] Sections 39(3) and 48(3) of the Act require that the Minister obtain, and take into account, the views of the Authority before carrying out the review of sections 38(1) and 47(1) of the Act.

[2] Section 38(2) of the Act states that, for the purposes of section 38(1), the designated period is a period of seven years (i.e. until 1 April 2013); or if an order is made under section 40 of the Act, the period of 10 years (i.e. until 1 April 2016), after the commencement of this section of the Act (which commenced on 1 April 2006).

[3] Section 47(2) of the Act states that, for the purposes of section 47(1), the designated period is a period of seven years (i.e. until 1 April 2013); or if an order is made under section 49 of the Act, the period of 10 years (i.e. until 1 April 2016), after the commencement of this section of the Act (which commenced on 1 April 2006).

[4] See ERA website, Issues Paper - Prohibition and Restriction on Synergy and Verve Energy under the Electricity Corporations Act 2005, January 2011.

[5] See ERA website, Prohibition and Restriction on Synergy and Verve Energy under the Electricity Corporations Act 2005 web page.

[6] Hugh Outhred, Managing Director, Ipen Pty Ltd, Sydney.

Effect of the Prohibition and Restriction on the current market

At the commencement of the Wholesale Electricity Market (**WEM**)[7] in WA, a number of measures were put in place to facilitate the introduction of competition into the electricity industry and to mitigate the market power[8] of Verve Energy and Synergy. These included:

- the Vesting Arrangements (2006) with a Displacement Mechanism,[9] which had the objective of gradually reducing the level of wholesale electricity supply from Verve Energy to Synergy;
- Verve Energy's generation capacity was capped at 3000 MW;
- Verve Energy was unable to sell to any party for its own consumption (herein referred to as 'retailing') until 2013 (extendable to 2016) (the 'Restriction');
- Synergy was unable to generate until 2013 (extendable to 2016) (the 'Prohibition'); and
- Synergy was prevented from forming a virtual vertically integrated company.

An overview of the WA electricity industry structure and market reforms is provided in Appendix 1.

The introduction of competition in WA was also supported by the introduction of the Short Term Energy Market (**STEM**), in which retailers and generators could trade electricity among each other in addition to their bilateral contracts; and the introduction of the Reserve Capacity Mechanism, to ensure that sufficient generation capacity entered the market to provide a reasonable buffer between supply and demand.

Overall, the measures described above have been effective in establishing competitors to Verve Energy. Over the past five years, more than 1,000 MW of new generation capacity has entered into the WEM. A large proportion of this new capacity has been underwritten through Synergy's Supply Procurement program required under the Displacement Mechanism in the original Vesting Contract (2006) (**VC**). The value of private investment in electricity generation since 2006 is around $2.6 billion.[10]

As a result of this new private sector investment in generation, Verve Energy's market share of generation capacity (excluding Demand Side Management capacity) will have

7 The WEM commenced operation in WA on 21 September 2006. The WEM is operated by the Independent Market Operator (**IMO**), in accordance with the *Wholesale Electricity Market Rules* (**Market Rules**). The WEM is split into an energy market and a capacity market. Energy can be traded bilaterally outside of the formal WEM processes, with retailers and generators able to trade variations from their bilateral positions through the STEM, which is operated by the IMO. Capacity is traded in the form of 'Capacity Credits', which are a notional unit of capacity provided by a facility during a Capacity Year (see Chapter 11 of the Market Rules for a more specific definition). Each year, the IMO allocates Capacity Credits to generators. Retailers are required to pay for their respective share of total Capacity Credits, i.e. the Individual Reserve Capacity Requirements, which is settled on a monthly basis. An overview of the WEM and a (unofficial) consolidated copy of the Market Rules can be obtained from the IMO website.

8 In the electricity market, this includes the ability of generators to sustainably and profitably maintain their market price above their short run marginal cost of production.

9 Under the Displacement Mechanism, Synergy's load volumes were gradually exposed to competitive sourcing, with Verve Energy and independent power producers able to tender for these volumes.

10 Includes private investment by Griffin Energy (Bluewaters 1 and 2), ERM Power (NewGen Kwinana and Neerabup), Perth Energy (Kwinana Swift), UBS International Infrastructure Fund and the Retail Employees Superannuation Trust (Collgar wind farm), Tesla Corporation (diesel units) and Merredin Energy (Merredin Power Station).

decreased from 80 per cent in 2007 to 60 per cent in 2012.[11] New entrants that have been established in the WEM include Griffin Energy, ERM Power and Perth Energy.

The measures have also contributed to the introduction of competitors to Synergy. Synergy's share (of electricity sold) in the contestable market (>50MWh per annum) decreased from 90 per cent in 2006 to 66 per cent in 2009.[12] The other most active retailers in the contestable market are Griffin Energy, Perth Energy and Alinta. Increased retail competition has also been reflected in a higher number of customers switching between retailers.

Current issues

While acknowledging that the measures described above have assisted the entry of competition into the WEM, the Authority has identified a number of challenges currently facing the market. These issues are summarised in this section, with further details provided in Appendix 2.

- A feature of the WEM is the continuing dominance of Verve Energy and Synergy, by virtue of their incumbent market positions. There are a number of methods for identifying market power in electricity markets, including market share[13] and indexes[14] which measure whether a generator's output is pivotal or close to pivotal in meeting demand. The Authority notes that Verve Energy's market share of credited generation capacity will be 60 per cent in 2012,[15] and is unlikely to decline below 40 per cent in the medium term. Verve Energy's generation output also plays a pivotal role in meeting demand in both peak and off-peak periods. Synergy's share of the retail market has remained steady in recent years, at around 80 per cent.
- Under the Displacement Mechanism in the original VC,[16] Synergy's load volumes were gradually exposed to competitive sourcing, with Verve Energy and Independent Power Producers (**IPP**) being able to tender for these volumes.[17] The absence of a displacement mechanism in the Replacement Vesting Contract (2010) (**RVC**) has reduced the incentives for private investment in new generation. Under the RVC, Verve Energy is likely to supply a greater quantity of contracted electricity to Synergy over the period 2013-2020 than would have occurred if displacement had continued under the VC.[18]
- There are currently structural barriers to effective retail competition, in particular at the residential and small commercial levels of the market. The Office of Energy considers that the "current residential electricity charges in WA are significantly

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11 Calculated from the IMO assigned Capacity Credits for the 2007/08 and the 2012/13 Capacity Years. For jointly owned assets, credits are assigned to reflect operational control rather than the ownership structure.

12 Office of Energy, Verve Energy Review, August 2009.

13 The ACCC considers that a firm with more than a 40 per cent market share will be likely to have a substantial degree of market power.

14 These include the Supply Margin Assessment used by the Federal Energy Regulatory Commission and the Residual Supply Index developed by the Californian Independent System Operator.

15 Derived from the IMO Capacity Credit allocation for the 2012/13 Reserve Capacity Year – excluding credited DSM capacity.

16 The VC provided for the wholesale supply of electricity and Capacity Credits from Verve Energy to Synergy.

17 Private investment in NewGen's Neerabup and Griffin Energy's Bluewaters 2 plant was underwritten by winning tenders (2006 and 2007 tenders) with Synergy for displaced loads. Note that NewGen's Kwinana plant was underwritten by Western Power's 'Power Procurement' process (2002-2005), which was designed to procure privately funded generation.

18 Note that the actual outcome would have been dependent on the success of IPP's in tendering for displaced loads under the VC and that supply volumes are confidential under the RVC.

less than the cost of providing the service".[19] Without cost reflective tariffs, and in the absence of a clear timetable for full retail contestability **(FRC**), the entry and expansion of retailers will be delayed.

The current market structure also provides opportunities for Verve Energy to gain benefits that are not available to other Market Participants.[20] Currently Verve Energy is the only supplier of Balancing Services and is the dominant supplier of Ancillary Services. To date, no detailed analysis has been undertaken of the cost of supplying Balancing and Ancillary Services; and whether the present framework over-compensates Verve Energy for the provision of Ancillary Services.[21] Proposed changes to the market design (being developed under the Market Evolution Program),[22] including the introduction of competitive balancing, will have an impact on Verve Energy's influence in the market.

Overall, it is evident from stakeholder submissions and from analysis undertaken by the Authority, that in aggregate, market power mitigation measures enacted at the commencement of the WEM, including the Prohibition and Restriction, have increased competition in the market, albeit at a greater rate in the generation sector than in the retail sector.

Potential effects of the Prohibition and Restriction on future market competition

The Authority has been asked to consider whether the Prohibition and Restriction should lapse at 2013 or be extended to 2016. The Authority notes that this advice has been requested within the context that the WEM framework is likely to be undergoing significant changes over the next few years and that it is unclear at this stage what the overall impact of these changes will be.[23]

If the Restriction were to lapse, Verve Energy could then sell electricity directly to end users. If the Prohibition were to lapse, Synergy could acquire generation assets. In this case, these entities could integrate (vertically) their generation and retail businesses, to become 'gentailers'. In this instance, there is the potential for the electricity market to become a highly concentrated duopoly market, with two dominant gentailers belonging to the same shareholder, the State Government.

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[19] Office of Energy, Tariff and Concession Framework Review web page. Note that residential electricity tariffs in WA did not increase over the period 1997/98 to 2008/09, while business tariffs for businesses did not increase between 1991/92 and 2007/08. The State Government approved tariff increases for households of 10 per cent in April 2009, followed by 15 per cent in July 2009. In March 2010, the Government approved a further two increases of 7.5 per cent and 10 per cent to take effect in April and July 2010.

[20] Balancing services involve real-time balancing of actual demand and the electricity sent out by available generation.

[21] These opportunities would depend on factors such as the demand-supply balance in the market (including the amount/type of spare capacity to meet demand in peak periods), Verve Energy's net STEM position and the relative revenue earned by Verve Energy from providing Balancing and Ancillary Services.

[22] The IMO's Market Evolution Program seeks to resolve the WEM design issues identified by the Market Rules Design Review. This review built on the foundation work of both the IMO's Market Rules Evolution Plan and the Verve Energy Review. Further information on these processes is available from the IMO's website.

[23] In submissions, the Chamber of Minerals and Energy noted that 'in the absence of a key strategic document and direction from the State Government as to the future direction of the WEM', it was difficult to provide specific comments in relation to the Prohibition and Restriction. ERM Power also noted that 'the Market Evolution Program is underway and these changes should be embedded before restrictions are lifted on Verve Energy and Synergy'.

Submissions on the Prohibition and Restriction

In its submission, the Chamber of Commerce and Industry (**CCI**) notes that easing the restrictions:

> .. may be positive in the short term from the standpoint of giving energy users more choice in supply. It may be especially useful to large intensive load users who often require their electricity supply to be sourced from a highly credit-rated entity in order to secure project financing. In this scenario, having an alternative supply option like Verve (with its likely high credit rating) would be of benefit.

Verve Energy and some large energy users (i.e. Perdaman and Bauxite Resources) were in favour of lifting the restriction on Verve Energy retailing, particularly for the purpose of having Verve Energy directly supply large commercial and industrial users. Verve Energy and these large energy users noted that market competition had evolved since the introduction of this restriction and that the retention of the 3000 MW cap effectively prevents Verve Energy from abusing its dominant market position.

The Authority notes that, even with the current Restriction, Verve Energy can supply large loads if the end user obtains a retail licence and then contracts with Verve Energy to supply that load.

Submissions by Synergy, current 'gentailers' (Griffin Energy, Perth Energy and ERM Power), CCI and the Chamber of Minerals and Energy were not in favour of lifting the Prohibition and Restriction. The key points from these submissions were that the Prohibition and Restriction should be extended, unless:

- there is demonstrable evidence that the outcome will not discourage competition in the generation, retail and wholesale electricity markets (including new entrants and existing smaller generators and retailers) and crowd out private investment;
- the significant changes being undertaken or proposed for the market (including those under the Market Evolution Program) are embedded; and
- significant structural reform is achieved; including future restructuring and privatisation of government owned retail and generation businesses; or through targeted sales of Verve Energy's generation assets.

In relation to Synergy becoming a 'gentailer', Synergy noted that:

> While it may take Synergy 3-5 years to get a major generation project to fruition (subject to government accepting this risk on Synergy's balance sheet), it is likely that Verve could commence retail services to large contestable customers within months of any change.

Synergy did not want the lifting of the restriction on Verve Energy retailing until Synergy had sufficient generation capacity:

> The (retail) Prohibition should be lifted prior to 2016 only upon the triggering of an event such as the commissioning of a Synergy owned power station beyond a certain size (refer other related or ancillary matters).

In its submission, CCI notes the risk to taxpayers from further government investment in electricity generation.

> The case for further competition and privatisation in the electricity sector is also strengthened from a fiscal standpoint. For example, CCI would be concerned about the increased risk to taxpayers that an easing in current restrictions might involve, in that two government-owned enterprises would subsequently be permitted to take on the significant risk of building and managing a portfolio of electricity generating assets. It would be more fiscally prudent for the government to encourage private sector take-up of such risks by further encouraging the development of competition in the Wholesale Electricity Market

(WEM). However, further reforms that give more investment certainty to private operators would need to be implemented in order for this to be achieved.

Assessment

In developing its views on whether the Prohibition and Restriction should lapse at 2013 or be extended to 2016, the Authority has considered the issues associated with the integration of generation and retail assets and reviewed outcomes in other jurisdictions (details provided in Appendix 3). The Authority has also taken into account stakeholder submissions and assessed the potential impacts of lifting/extending the Prohibition and Restriction on competition in the electricity market.

The Authority notes, while processes in other jurisdictions have not always delivered 'fully effective' competition across the generation and retail segments of the electricity market, having more than one or two entities owning the majority of generation assets (generators or 'gentailers') is recognised as assisting the transition to competition. This is particularly the case when these entities are government-owned and effectively have the same 'shareholder'. In New South Wales and in New Zealand, for example, to enhance competitive outcomes, the incumbent government-owned utility was split into four and three competing generation enterprises, respectively. In addition, regulatory bodies in Australia and overseas have opposed the cross-ownership of generation and retail businesses (when one or both of these businesses has a large market share), due to the detrimental impact on competition.[24]

The Authority is particularly concerned that lifting the Prohibition and Restriction at this time could see the establishment of two dominant 'gentailers'. Vertical integration between generation and retailing can deliver commercial advantages to the 'gentailer' business. For example, an integrated ownership structure can aid in risk management.[25] However, vertical integration may not necessarily deliver broader consumer benefits. Vertical integration can lessen competition where a business has significant market share in one segment of the market, which can then be levered to the advantage of the business in other market segments. For example, small use customers could be allocated a greater share of costs, with larger customers being allocated a lesser share (known as cross-subsidisation).

In an electricity market with dominant 'gentailers', new entrants often have difficulties in securing adequate wholesale electricity supply contracts because there are fewer unencumbered counterparties for new entrants (generators or retailers) to contract with.[26] A stand-alone retailer is unlikely to be able to compete with a dominant 'gentailer' who controls the surplus capacity in the market.[27] Further, there is evidence that retail margins

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[24] See for example, ACCC 2003, AGL acquisition of an interest in Loy Yang; Board of Trade (NZ) 1996, PowerGen's bid for Midland Electric and National Power's bid for Southern Electric.

[25] Note that the integration of upstream and downstream businesses creates a 'natural hedge' against variations in the impact of input price variations on profitability and allows a gentailer to capture benefits across segments. Vertical integration allows an electricity business to align supply with demand from large and small customers and pursue differentiated retailing strategies and charge different prices. AEMO, 2010 Electricity Statement of Opportunities for the National Electricity Market.

[26] See for example, "Liquidity in the GB power market: Update", Ofgem Open Letter, 3 December 2010. Available at www.ofgem.gov.uk. The memo notes that "In particular, independent suppliers and generators have expressed concerns that they find it difficult to manage risk with the wholesale products currently available".

[27] There is no incentive for a dominant gentailer to sell electricity to a sole retailer when it can sell that electricity itself and capture the retail margin. The incumbent 'gentailer' is then likely to retain or gain customers if the threat of competition from other retailers is limited.

tend to be higher in regions where there are fewer retailers competing for customers.[28]

The Authority has considered the proposal (suggested in the public submissions) to partially lift the Restriction to allow Verve Energy to sell electricity directly to large customers. The Authority notes that there can be efficiency gains in direct retailing (including that large customers would no longer have to obtain a retail licence). However, it is not clear to the Authority that the overall outcome would deliver net benefits to the market. There is a risk that Verve Energy could use its unique and dominant position in the market, including the advantages of an extensive plant portfolio and the guaranteed bilateral contract with Synergy, so that small use consumers could end up cross-subsidise the larger customers that Verve Energy directly retails to.

The retention of the Prohibition and Restriction would address a number of stakeholder concerns, including the ability of participants to compete effectively in the market.

Overall, the Authority considers that the market is not yet sufficiently competitive to deliver market and consumer benefits in the absence of the Prohibition and Restriction. The Authority recommends that the Prohibition and Restriction should be extended to 2016 and be reviewed again at that time.

Recommendation

The Authority recommends that the Prohibition and Restriction should be extended to 2016, as it is unlikely at this time that the benefits of lifting these provisions in 2013 would outweigh the costs. The Authority considers that these provisions continue to encourage new entry and private investment, which in turn increases competition and enhances efficiency in the electricity market.

The Authority also recommends that a further review should be conducted prior to 2016 to assess the level of market competition, and whether it is appropriate to extend certain market power migration measures, including the Prohibition and Restriction, for a further period post-2016.

[28] Ministry of Economic Development (New Zealand) and the Electricity Technical Advisory Group 2009, ‘Improving Electricity Market Performance’, Report to the Ministerial Review of Electricity Performance, Discussion paper Vol.1.; Waitaki-Power-Trust (2008), Submission to the Ministry of Economic Development on Improving Electricity Market Performance.

Appendices

Appendix 1 Background

This section provides an overview of the electricity industry's structure, market reforms and the background to the legislation in WA.

Reform of the electricity industry in Western Australia

In August 2001, the State Government established the Electricity Reform Task Force (**ERTF**) to investigate and make recommendations on electricity reforms to be undertaken in WA. On 15 October 2002, the ERTF's final report 'Electricity Reform in WA, A Framework for the Future'[29] was submitted to Government. The most significant recommendations of the ERTF were the disaggregation of Western Power, and the establishment of a wholesale electricity market in WA.

Implementation of these key reforms was intended to facilitate a more competitive electricity supply industry. The ERTF also noted that, ultimately, reform should progress to FRC. It foreshadowed that the regulatory framework to facilitate competition and protect consumers would also need to evolve as the industry develops.

The ERTF also considered that retail contestability would be a key element in driving consumer gains and noted that 'the nature and timing of new entry in the retail sector will be determined by the extent and phasing of retail contestability and the success of reforms in the wholesale market'.[30]

In the ERTF recommendations, one option considered for constraining the market power of the incumbent retailer was the creation of multiple retail businesses, each with an associated (initial) franchise on geographic boundaries in the SWIS. However, given the significant economies of scale in retailing, the ERTF considered that it was not clear that this option would deliver sufficient benefits to outweigh the costs of creating separate business entities and that it was more likely that contestability would drive consumer gains.[31] It was recommended that a single entity state-owned retailer, Synergy, be created. A number of market power mitigation instruments were then placed on Synergy, including being unable to generate until 2013 and being restricted from retailing outside the SWIS.

In November 2002, the Government endorsed the recommendations of the ERTF.[32]

To implement the recommendations of the ERTF, the Government established the Electricity Reform Implementation Steering Committee (**ERISC**) in November 2002.[33] The ERISC was supported in its work by the Electricity Reform Implementation Unit (**ERIU**).[34]

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[29] See the National Library of Australia website, Electricity Reform in WA, 'A Framework for the Future', October 2002.

[30] See the National Library of Australia website, Discussion Paper on the Reform of the Electricity Supply Industry in Western Australia (Volume 1), Structure and Market Design for the Electricity Supply Industry in WA.

[31] See the National Library of Australia website, Discussion Paper on the Reform of the Electricity Supply Industry in Western Australia (Volume 1), Structure and Market Design for the Electricity Supply Industry in WA.

[32] The ERTF ceased operations in November 2002.

[33] ERISC was established under the authority of Cabinet's decision dated 25 November 2002.

[34] The ERIU was responsible for: the timely and efficient implementation of the electricity reform agenda under the guidance of the ERISC; undertaking stakeholder consultation; managing the reform agenda budget; and reporting to ERISC on progress and major policy issues. Senior members from the Office of

An early milestone in the ERIU's implementation of the reform process was the achievement of a detailed Project Implementation Plan[35] for a four-year reform agenda. This plan provided a detailed breakdown of six implementation work streams, two of which were the disaggregation of Western Power and development of a WEM.

Under the WEM work stream, a Market Rules Development Group (**MRDG**) was established – one of the MRDG teams was the 'Market Power Mitigation Expert Team'. The team's deliverables included developing the vesting and initial contracts between State Generation (Verve Energy) and Retail (Synergy) and developing market power mitigation measures under the WEM framework.

Key reforms that were implemented as a result of the work of the ERISC/ERIU included:

- the disaggregation of Western Power into four separate corporations on 31 March 2006;[36] and
- the introduction of a suite of instruments to mitigate the market power of Verve Energy and Synergy to coincide with the commencement of the WEM, which are discussed below.

Overview of the WEM market power mitigation strategy

This section contains a brief discussion of the instruments put in place at the commencement of the WEM to mitigate the market power of Verve Energy and Synergy.

Verve Energy cannot retail until 2013 (extendable to 2016)

Section 38 of the Act restricts Verve Energy from supplying electricity to a customer for the customer's own use until 1 April 2013, other than as authorised by the Minister. Following a review by the Minister of section 38 of the Act, this restriction is extendable until 1 April 2016 by order of the Minister under section 40 of the Act.

Synergy cannot generate until 2013 (extendable to 2016)

Section 47 of the Act prohibits Synergy from generating electricity until 1 April 2013. Following a review by the Minister of section 47 of the Act, this restriction is extendable until 1 April 2016 by order of the Minister under section 49 of the Act.

Verve Energy restricted to the SWIS (except for renewables)

Section 37 of the Act limits Verve Energy to generate, purchase, or otherwise acquire and supply electricity in the SWIS. However, this restriction does not apply insofar as the generation and supply of electricity is from renewable sources.

Synergy restricted to the SWIS

Section 46 of the Act limits Synergy to the SWIS with regards to its principle functions as set out in section 44 of the Act, including the function of supplying electricity to consumers.

Energy, Department of Treasury and Finance and Western Power were seconded to the ERIU.

[35] Approved by the ERISC on 30 June 2003.

[36] The Electricity Retail Corporation (Synergy), responsible for the sale of electricity within the SWIS; the Electricity Generation Corporation (Verve Energy), responsible for power generation within the SWIS; the Electricity Networks Corporation (Western Power), responsible for operating, maintaining and expanding the electrical transmission and distribution network in the SWIS; and the Electricity Regional Corporation (Horizon Power), responsible for the generation, transport and sale of electricity in areas outside the SWIS.

3000 MW generation capacity cap on Verve Energy

In 2006, the Minister issued a Direction imposing a cap on Verve Energy's non-renewable generating capacity, in order to mitigate Verve Energy's market power in the generation market. Unless the policy in relation to the cap changes, Verve Energy cannot invest in new capacity, other than generation that is solely fuelled by renewable sources, until plant retirements bring it below the 3000 MW cap, and can then invest only to the extent the cap is not exceeded. No expiry date has been set for the cap.

Synergy cannot form a virtual vertically integrated company

In 2006, the Minister issued a Direction prohibiting Synergy from entering into any agreements that would result in Synergy being required to register, or seek exemption from the requirement to register, as a WEM Market Generator.

WEM generation offers must reflect short run marginal cost when such behaviour relates to market power

Clause 6.6.3 of the Market Rules requires generators to offer their electricity at a price that reflects "the Market Generator's reasonable expectation of the short run marginal cost of generating the relevant electricity when such behaviour relates to market power".[37]

2006 Vesting Arrangements

The disaggregation of Western Power required the creation of contractual relationships between Synergy and Verve Energy, with wholesale electricity supply arrangements being one of the most significant contractual relationships. These arrangements would affect the financial operations of the corporations and impact on the development of the WEM.

As a result, the Minister imposed the 'Vesting Arrangements' on Synergy and Verve Energy as a transitional mechanism to support the development of the WEM. The Vesting Arrangements provided for the initial wholesale supply of electricity from Verve Energy to Synergy.

The 2006 Vesting Arrangements were comprised of the VC between Synergy and Verve Energy, and a 'Displacement Mechanism Ministerial Direction' (**DMMD**) given to Synergy which imposed restrictions on its behaviour in relation to the VC.[38]

A key feature of the Vesting Arrangements was the 'Capacity Cap', which represented the highest quantity of Capacity Credits and energy supplied by Verve Energy to Synergy under the contract. To distinguish this Capacity Cap from the 3000 MW generation capacity cap placed on Verve Energy; this cap will herein be referred to as the 'Capacity Credit Cap'.

The Capacity Credit Cap in each Reset Period (other than the first period) was set as the

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[37] For further information on short run marginal cost, see the Authority's web page; Short run marginal cost.

[38] The DMMD was put in place to ensure that the tender processes that Synergy undertook to fulfil its obligations under the Displacement Mechanism in the Vesting Contact (2006) were open and fair and that the market was provided with appropriate information to participate in the tender processes. The key features of the DMMD were as follows. The Tender Process – the DMMD specified the guidelines that Synergy must follow in running the tender process under the Displacement Mechanism specified in the 2006 Vesting Contract, including that Verve Energy must be treated equally with all other tenderers and was not to be afforded any special treatment or benefit. The Annual Displacement Statement of Opportunities (ADSOO) – the DMMD specified that Synergy must annually publish certain information, such as the volumes that will be available for future tender, and the average vesting price. The ADSOO was intended to provide potential bidders in the tender processes with appropriate information. Synergy published the ADSOO annually by 30 November, with the first ADSOO published in 2006.

lesser of three amounts:[39]

- Synergy's capacity requirements for customers backed by the VC;
- Verve Energy's amount of credited capacity under the VC; or
- the Capacity Credit Cap in the previous year.

The Capacity Credit Cap declined over time due to:

- expiration of Synergy's retail contracts that it inherited from Western Power;
- contestable tariff customers accepting new contract offers (whether with Synergy or another retailer); and
- the operation of the 'Displacement Mechanism', which reduces the quantity of energy and Capacity Credits traded under the VC.

The VC was designed to terminate at the end of the Reset Period when the Capacity Credit Cap was determined to be less than 150 MW in a Trading Interval. As a result, the timing for the termination of the VC was dependent on factors that affected the Capacity Credit Cap, including:

- churn of contestable tariff customers to contracts (whether to Synergy or to another retailer);
- growth in franchise customers; and
- implementation of the Displacement Mechanism.

The Office of Energy's 'Overview of the Vesting Contract' (September 2006),[40] provided three scenarios to illustrate the timing for the termination of the VC. Depending on the scenario, the VC could have terminated as early as 2015 or as late as 2019.

The VC was cancelled by the Government on 1 October 2010, before the Capacity Credit Cap was reduced to less than 150 MW.

Overview of post-reform outcomes

Financial performance

Historically, the financial performance of Verve Energy and Synergy has been in contrast. Synergy has operated profitably between the 2006/07 and 2009/10 financial years.

Between the 2006/07 and 2008/09 financial years, Verve Energy incurred significant losses each year.[41] However, in the 2009/10 financial year Verve Energy achieved a full-year net profit of $97.5 million. The turnaround in Verve Energy's financial performance in the 2009/10 financial year was largely due to two factors, tariff increases[42] and Community Service Obligation (**CSO**) payments to Synergy implemented by the State Government.[43]

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[39] Contract parameters were reset periodically (typically annually) at the end of specified 'Reset Periods'. For further information on the features of the Vesting Contract, see the Office of Energy's web site, Overview of the Vesting Arrangements.

[40] Office of Energy, Overview of the Vesting Arrangements, September 2006.

[41] Full year actual results for the 2007 to 2009 financial years.

[42] Residential electricity tariffs in WA did not increase over the period 1997/98 to 2008/09, while business tariffs did not increase between 1991/92 and 2007/08. The State Government approved residential tariff increases of 10 per cent in April 2009, 15 per cent in July 2009, 7.5 per cent in April 2010 and 10 per cent in July 2010.

[43] The CSO is paid to Synergy and is designed to compensate Verve Energy for the gap between the

Current market

In the SWIS area, on average about 90 per cent of the retail electricity price is made up of generation, transmission and distribution costs, whilst retail costs make up about 10 per cent. The Authority regulates the tariffs of regulated transmission and distribution networks. The Minister determines the retail tariffs that Synergy may charge their small use customers.

From 1 January 2005, all customers within the SWIS who consume 50MWh or more of electricity per annum at a connection point on the distribution network were eligible to choose their electricity retailer. This created two classes of small use customer in the SWIS which can take supply under regulated retail tariffs:

- contestable customers: who consume 50-160MWh of electricity per annum.
- non-contestable customers: who consume <50MWh of electricity per annum.

Non-contestable customers can only be supplied by Synergy within the SWIS.

The SWIS contestable electricity retail market is around 52,581 customers, or 5.4 per cent of the total market as at 30 June 2010. During 2009/10, there were seven retailers approved to supply small use customers, although Griffin Energy Sales and Clear Energy did not supply any customers.[44]

- Synergy
- Alinta Sales
- Clear Energy
- Griffin Energy Sales
- Horizon Power
- Perth Energy
- Rottnest Island Authority

There are a further 10 licensed retailers that only supply large use customers.

Market share

Synergy is the largest retailer in the SWIS with just over 942,000 residential and non-residential customers, or 96 per cent of the total market. Synergy had the largest share of the non-residential market with 98.4 per cent of SWIS customers, followed by Alinta Sales (0.97 per cent) and Perth Energy (0.61 per cent). Synergy was the only retailer supplying residential customers within the SWIS. Alinta Sales and Synergy also retail gas to small use gas customers in the SWIS.

Outside the SWIS, Horizon Power is the sole supplier to both residential and non-residential customers in its respective supply area.[45]

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economic cost of generation and non-cost reflective electricity retail tariff revenues. The CSO paid to Synergy flowed to Verve Energy through the Vesting Contract's Netback Mechanism. This CSO commenced in the 2009/10 financial year.

[44] See ERA web site, Economic Regulation Authority 2011, 2009/10 Annual Performance Report – Electricity Retailers.

[45] Horizon Power's customers are not able to choose their electricity retailer, because in the absence of competition in the supply area, they are entitled to access electricity tariffs that are regulated by government through the *Energy Operators (Powers) Act 1979*.

During the 2009/10 financial year: [46]

- contestable customers within the SWIS represented only 0.48 per cent of residential customers and 10.5 per cent of non-residential customers;
- Synergy supplied all contestable residential customers and 86 per cent of contestable non-residential customers; and
- Synergy's market share of electricity sold (to contestable and non-contestable customers) in the SWIS remained at around 80 per cent.

Table A1 sets out Verve Energy's generation market share (of Capacity Credits) and Synergy's retail market share (of electricity sold in the SWIS).

Table A1 Verve Energy's generation market share (of Capacity Credits) and Synergy's retail market share (of electricity sold in the SWIS)

Year	Verve Energy[47]	Synergy[48]
2007/08	77%	
2008/09	66%	80%
2009/10	61%	80%
2010/11	60%	
2011/12	57%	
2012/13	56%	

Market power mitigation measures have been effective in assisting the introduction of new entry generation into the WEM, and have resulted in a steady reduction of Verve Energy's generation market share. Verve Energy's market share of capacity (includes generation and Demand Side Management capacity) will have decreased from 77 per cent in 2007/08 to 56 per cent in 2012/13.[49]

46 See ERA web site, Economic Regulation Authority 2011, 2009/10 Annual Performance Report – Electricity Retailers.

47 Percentage of Verve Energy's Capacity Credit allocation against the total allocation for the Reserve Capacity Year, which runs from 1 October (8AM) until the following 1 October (8AM).

48 From the Synergy 2008/09 Annual Report and the Synergy 2009/10 Annual Report.

49 Derived from the IMO Capacity allocations for the 2012/13 Reserve Capacity Year.

Appendix 2 Supplementary information on current issues

Structural issues

Dominance of Verve Energy and Synergy

A feature of the WEM is the continuing dominance of Verve Energy and Synergy, by virtue of their incumbent market positions.

While there has been a steady reduction of Verve Energy's market share since market commencement, its share of credited capacity will still be 56 per cent in the 2012/13 Reserve Capacity Year.[50] Synergy's share of the retail market has remained steady in recent years, at around 80 per cent.

In comparison to the SWIS, there is a greater diversity in generators in the National Electricity Market (**NEM**).

- The largest NEM market share (of registered capacity) is around 10 per cent for both Delta Electricity and Macquarie Generation (with both being NSW Government enterprises).[51]
- The aggregate NEM market share for the five major generation facilities is around 40 per cent.[52] Of these facilities, only one is owned by a private enterprise.

Structural barriers to effective retail competition

There are currently structural barriers to effective retail competition, in particular at the residential and small commercial levels of the electricity market. The Office of Energy considers that the "current residential electricity charges in WA are significantly less than the cost of providing the service".[53] The absence of a clear framework for increasing retail competition (which may include increasing retail tariffs, the introduction of FRC or the introduction of franchise areas for new entrants), limits the entry and expansion of new retailers. The Office of Energy is currently undertaking a review of the introduction of further retail competition in the Western Australian electricity market.[54]

Replacement Vesting Contract

The original VC between Synergy and Verve Energy was replaced in October 2010 with the RVC.

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50 Derived from the IMO Capacity Credit allocations for the 2012/13 Reserve Capacity Year, which includes credited DSM capacity.

51 Derived from the registered capacity caps in the AEMO Registration and Exemption lists (updated 11 January 2011). In December 2010, the NSW Government granted long-term leases for two generation facilities, Eraring Energy and Delta West. The Government retains ownership of these facilities, while the leasee controls100 per cent of the electricity output from those power stations.

52 The five major generators are Macquarie Generation, Delta Electricity and, Eraring Energy (owned by the NSW Government), Stanwell Corporation (owned by the Queensland Government) and AGL (a private enterprise).

53 Office of Energy, Tariff and Concession Framework Review web page.

54 The Office of Energy is undertaking the review on behalf of the Minister for Energy. The Minister is required by the *Electricity Corporation Act 2005* to review Section 55, which relates to the level of retail contestability in the market.

In their submission to the Authority, ERM Power noted that:

> The current restrictions and prohibitions have not yet succeeded in opening up the contestable market to the full forces of competition,[55] FRC has not been achieved and the (revised) Vesting Contract 2010 is still in place.

The VC was a mechanism intended to support the transition from a monopoly electricity utility (Western Power Corporation) to the development of a competitive electricity market (with private investment) in WA. At the time the vesting arrangements were put in place, they were based on the general principle that FRC would be introduced once the WEM was 'efficient' and at that time there should be no further need for a vesting arrangement. The RVC effectively extends the timeframe for this type of transitional arrangement to 2020 and does not have the Displacement Mechanism[56] of the VC, which was designed to facilitate private investment in generation by allowing IPP's to tender for Synergy's loads as they became available under the Displacement Mechanism.

The Authority also notes that the pricing and costs of Verve Energy and Synergy are not transparent to the market or to any regulatory body and there has not been an efficiency review undertaken of these two businesses. The implementation of the RVC, which continues to 2020, also means that pricing transparency surrounding Verve Energy and Synergy is unlikely to increase in the medium term.

Market power

Market power mitigation continues to be an issue in electricity markets that have greater maturity and competitive elements than the WEM. In the NEM, the exercise of market power is not specifically addressed by the *National Electricity Rules* (**NER**),[57] but rather is subject to the relevant provisions of the *Trade Practices Act 1974.* One of the key factors in the ability to exercise market power is the size of market share. The Authority notes that the Australian Competition and Consumer Commission (**ACCC**) considers that a firm with more than a 40 per cent market share will be likely to have a substantial degree of market power.[58]

Electricity supply indexes[59] have been developed as indicators of market power in United States electricity markets. These indexes measure whether a generator's output is pivotal or close to pivotal in meeting demand at a point in time, by evaluating the capacity of the largest generator against the supply-demand balance. Another factor evaluated as an indicator of market power is whether generators with larger market shares are disproportionately more likely to have outages (and these outages cannot be explained by

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55 ERM Power noted that a significant section of the contestable market remains locked into Synergy, as they are still on non cost-reflective tariffs, and remain subsidised by taxpayers. ERM Power considered that making customers on L3, R3, S1 and T1 tariffs exposed to the contestable market should also be a priority to ensure competitive market benefits in the WEM.

56 Under the Displacement Mechanism, Synergys' load volumes were gradually exposed to competitive sourcing, with Verve Energy and IPPs able to tender for these volumes.

57 Clause 3.1.4(b) of the NER states that the market rules are not intended to regulate anti-competitive behaviour by market participants which, as in all other Australian markets, is subject to relevant provisions of the *Trade Practices Act 1974*.

58 The ACCC investigates whether mergers will lead to a substantial lessening of competition. Market share is a factor considered by the ACCC, which historically included if the merged firm would have 40 per cent or more of the market (ACCC Merger Guidelines 1999). In the revised Merger Guidelines (2008), merger parties are encouraged to notify the ACCC where both "the products of the merger parties are either substitutes or complements" and "the merged firm will have a post-merger market share of greater than 20 per cent in the relevant market".

59 These include the Supply Margin Assessment used by Federal Energy Regulatory Commission and the Residual Supply Index developed by the Californian Independent System Operator.

expected factors such as the age of the plant). Outages for (larger) baseload plant, rather than peaking plant, have a greater impact on energy supply.

The Authority notes that Verve Energy's market share of certified capacity (including DSM) in the WEM will be around 56 per cent in 2013,[60] and given the RVC, is unlikely to decline below 40 per cent in the medium term. Verve Energy's generation output also plays a pivotal role in meeting demand in both peak and off-peak periods.

Market issues

Verve Energy with the largest generation portfolio and as price setter in the WEM

In gross pool electricity markets (which have a physical electricity market and a financial 'hedging' market), such as the NEM, withdrawal of generation plant in peak demand periods may result in higher spot prices and a higher net profit level for the generator. There have been numerous investigations into dominant generators and analysis of the use of market power in gross pool markets across the world. In the net pool WEM model, there are two separate markets. These are the capacity market and the energy market (bilateral contracts, short-term electricity trading and real-time balancing). In the case of capacity, a plant on planned outages (need to be approved by System Management) will still be eligible for capacity payments, while a forced outage attracts a penalty refund of the capacity payment. Higher prices in the STEM can result from plant outages, particularly in peak demand periods.

Verve Energy has the largest generation plant portfolio, a guaranteed bilateral contract with Synergy, is often a price-setter in the STEM and provides default Balancing services. Buyers in the STEM have to purchase energy at higher prices if plant outage/s result in higher STEM prices and these prices can be linked with higher prices for Balancing and Ancillary Services. Currently Verve Energy is the only supplier of Balancing services[61] and the dominant supplier of Ancillary Services and captures the benefits of higher prices.

Verve Energy as the default provider of Ancillary Services and Balancing

The Authority notes that, to date, no detailed analysis has been undertaken of the cost to Verve Energy of supplying Ancillary Services and Balancing; and whether given the present framework overcompensates Verve Energy for the provision of Ancillary Services. However, the Authority does consider that, in the current WEM framework, there are opportunities[62] for Verve Energy to gain profitable outcomes that are not practically available to other generators.

Perth Energy noted that:

> Verve Energy's special role in the WEM, as the default balancer and provider of ancillary services, carries significant advantage over other participants and this role should be sufficient to prevent the utility from participating as a retailer.

The submission by Verve Energy stated that existing wholesale electricity contracts are a limit to its ability to act in an anti-competitive manner.

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60 Based on the IMO capacity credit allocation for the 2012/13 Reserve Capacity Year.

61 Balancing services involve real-time balancing of actual demand and the electricity sent out by available generation.

62 Depending on factors such as the demand-supply balance (including the amount/type of spare capacity to meet demand in peak periods), Verves Energy's net STEM position and the relative revenue earned by Verve Energy's from providing Balancing and Ancillary Services.

> Verve Energy has limited ability to exercise market power in the wholesale electricity market. The RVC and other bilateral contracts held with Synergy and other retailers effectively mute Verve Energy's ability and incentive to do so.

Verve Energy also stated that, of its total generation capacity (capped at 3000 MW), approximately 15 per cent (based on certified capacity credits) will be available over the next decade for sale outside of existing contact commitments.

Appendix 3 Vertical integration between generators and retailers

While vertical integration between generation and retailing can deliver efficiency gains and commercial advantages to the 'gentailer' business, it may not necessarily deliver broader consumer benefits. Vertical integration can lessen competition given a business has significant market share in one segment of the market, which can then be levered to the advantage of the business in other market segments. Regulatory bodies have opposed the cross-ownership of generation and retail businesses (when one or both of these businesses has a large market share) due to the detrimental impact on competition.[63]

Studies of electricity markets have found that:

- while vertical integration is not anti-competitive *per se*, "anti-competitive problems may arise where it is associated with excessive horizontal aggregation" (i.e. where one company has a large market share in generation or retail);[64]
- while there are benefits at the generation level from vertical integration, this can be counterbalanced by the cost (to the consumer) of increased retail margins;[65]
- the behaviour of a 'gentailer' is less observable by regulators and the public at large than the behaviour of separate generation and retailing companies, giving the 'gentailer' greater opportunities to extract economic rent;[66] and
- new entrants have difficulties in securing adequate wholesale electricity supplies to provide sufficient 'rivalry' to incumbent 'gentailers' and often exit the market, while incumbent 'gentailers' charge relatively higher prices to customers who reside in incumbents former monopoly areas.[67]

A key issue that arises in an electricity market with dominant generators and limited retail competition is that of cross-subsidisation. Without transparency and/or effective regulatory oversight, preferential treatment and cross subsidisation can occur between vertically integrated businesses that own generation, network and/or retail assets.

The Authority notes that for 'gentailers' to offer competitive supply to large customers and other retailers partly depends on the competition from other suppliers and the level of surplus capacity in the market. In a market where there is small number of 'gentailers', large customers may be unable to negotiate competitive terms with generators.[68]

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63 See for example, ACCC 2003, AGL acquisition of an interest in Loy Yang; Board of Trade (NZ) 1996, PowerGen's bid for Midland Electric and National Power's bid for Southern Electric.

64 Energy Reform Implementation Group 2007, Energy Reform: The way forward for Australia: a report to the Council of Australian Governments.

65 See for example, Giulietti, M., Grossi, L., and M. Waterson, 2010. "Price transmission in the UK electricity market: was NETA beneficial", Energy Economics, Vol.32 (5), pp. 1165-74. The results showed that the six major gentailers have significant 'pricing latitude' at the retail level. Note that 70 per cent of customers remain with one or other of the former monopoly suppliers, with some customers having negotiated better terms (Ofgem 2008. Energy Supply Probe; Initial Findings Report, October 2008).

66 Gentailers can utilise a lack of price transparency and cross-subsidisation and have the ability to pass-through higher wholesale prices to end users. In New Zealand, three of the largest 'gentailers' are government owned. Wholesale prices over the period 2001-07 were found, on average, to be 18 per cent higher than they would have been if the wholesale market had been more competitive and the 'gentailers' had not been able to exert market power. The Commission also found that the 'exercise of market power in the wholesale market appears to have been passed through in the form of higher retail prices'. Commerce Commission 2009, Investigation Report, Commerce Act 1986 S27, S30 and S36: Electricity Investigation, May 2009.

67 Ofgem 2008. Energy Supply Probe; Initial Findings Report, October 2008. The report found there was no cost basis for charging a premium to these customers.

68 Commerce Commission 2009, Investigation Report, Commerce Act 1986 S27, S30 and S36: Electricity

However, it is the retail margins for small use customers that are more likely to increase in a deregulated market that has limited competition. Studies of the New Zealand market have concluded that retail margins have significantly increased for residential users, suggesting cross-subsidisation by 'gentailers' between residential and commercial tariffs. Margins also tended to be highest, and innovative service offerings more limited, in regions where there are fewer retailers competing for customers.[69]

Even with FRC, in jurisdictions with a dominant 'gentailer', outcomes have been 'limited rivalry' and the exit of independent retailers.[70] In contrast, the Australian Energy Market Commission found that in South Australia, where there are a number of dual-fuel 'gentailers' and small scale pure retailers, new entrants have gained significant market share and there has been strong rivalry between energy retailers.[71]

Investigation, May 2009.

69 Ministry of Economic Development (New Zealand) and the Electricity Technical Advisory Group 2009, 'Improving Electricity Market Performance', Report to the Ministerial Review of Electricity Performance, Discussion paper Vol.1.; Waitaki-Power-Trust (2008), Submission to the Ministry of Economic Development on Improving Electricity Market Performance.

70 One example is the outcome in the ACT electricity market; see AEMC 2011, Review of Effective Competition in the ACT Electricity Market.

71 AEMC 2008, Review of the Effectiveness of Competition in Electricity and Gas Retail Markets in South Australia - First Final Report.

Appendix 4 Glossary

ACCC	Australian Competition and Consumer Commission
CCI	Chamber of Commerce and Industry
CSO	Community Service Obligation
DMMD	Displacement Mechanism Ministerial Direction
ERISC	Electricity Reform Implementation Steering Committee
ERIU	Electricity Reform Implementation Unit
ERTF	Electricity Reform Implementation Task Force
FRC	Full retail contestability
IMO	Independent Market Operator
IPP	Independent power producer
MRDG	Market Rules Development Group
NEM	National Electricity Market
NER	National Electricity Rules
RVC	Replacement Vesting Contract (2010)
STEM	Short Term Energy Market
SWIS	South West interconnected system
VC	Vesting Contract (2006)
WEM	Wholesale Electricity Market