



20 June 2008

Dr John Tamblyn
Chairman
Australian Energy Market Commission
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Dear John,

Review of Demand-Side Participation: AEMC's Issues Paper

1. Introduction

SP AusNet welcomes the opportunity to make this submission in response to the AEMC's Issues Paper, which commences Stage 2 of the AEMC's review of Demand Side Participation (DSP) in the NEM.

As you know, SP AusNet is a member of Grid Australia and the Energy Networks Association. Accordingly, SP AusNet supports the submissions made by those organisations. In addition, SP AusNet is one of few Australian energy market participants with substantial network facilities in more than one energy sector category. The company owns the Victorian electricity transmission business, one of five electricity distribution businesses in Victoria, and one of three gas distribution businesses in Victoria. As such, SP AusNet is able to comment on DSP from a number of different perspectives.

As an overarching comment, SP AusNet would like to reiterate its support for DSP solutions, where these provide the most efficient means of addressing consumers' energy service needs. Increasingly, there is an overwhelming community acceptance that energy must be produced and consumed more efficiently. SP AusNet believes that the current DSP review must be seen in the wider context of environmental concerns generally, and energy usage in particular. It is essential that the regulatory arrangements support DSP and do not provide impediments to its adoption.

In much the same way that traditional network-driven solutions should not drive out efficient DSP, inefficient DSP should not be promoted or encouraged. It is therefore important that the AEMC's review recognises the characteristics and practical limitations of DSP. In particular, DSP may provide lower levels of reliability than network solutions, or may be less responsive to rapid changes in the supply-demand balance than other supply side options (such as generation and/or transmission). Any amendments to market and regulatory arrangements should avoid



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attempting to overcome the characteristics of DSP. SP AusNet therefore concurs with the introductory comments expressed on page 6 of the Issues Paper:

“It is also relevant to consider what is not an impediment to more efficient and informed engagement by consumers. Participants in the electricity market face costs, obligations and incentives that are legitimate requirements of the market. These may relate to ensuring the reliability, security and quality of supply or to prudential obligations for participants in the wholesale electricity market. Such costs, obligations and incentives apply more or less to any participant and cannot be considered as an impediment to DSP.”

More broadly, SP AusNet also supports the planned approach to the review (as set out on page 1 of the Issues Paper), which involves:

- the AEMC focusing on identifying high impact issues that are likely to have simple, low cost solutions; and
- the AEMC identifying and undertaking further analysis of complex, high cost options that may provide benefits in excess of the costs.

SP AusNet notes the need to ensure that appropriate resources are targeted to the development of effective solutions to real problems. Accordingly, SP AusNet supports the approach foreshadowed in the Issues Paper, particularly the emphasis given to the development of simple, low cost, high value solutions.

SP AusNet's more detailed comments on the specific matters raised in the Issues Paper are set out below, under headings corresponding to those used in the Issues Paper. SP AusNet's comments take into account the AEMC's broad interpretation of DSP as solutions encompassing both load reduction (either from the user or network side) and embedded generation.

2. Economic Regulation of Networks

2.1 The balance of incentives for the efficient inclusion of demand-side options

In response to the contention that the balance of incentives may not encourage the efficient inclusion of demand-side options by Network Service Providers (NSPs), SP AusNet's comments are set out below.

From an economic perspective, poorer service performance represents a real cost - as defined by the value of customer reliability - to customers. SP AusNet includes these costs to customers in its planning analyses to ensure efficient investment outcomes.

Under the S-factor scheme in its price control, SP AusNet faces costs (penalties) for reduced distribution network service performance. In this context it is important to recognise the risk that some DSP projects may deliver results that reduce the reliability of supply experienced by customers. Where DSP providers are unable to bear potential penalties for any reduced reliability performance under a DSP solution, then that risk must be taken into account by the Distribution NSP.

That said, it is also noteworthy that SP AusNet's risk exposures under the S-factor scheme provide strong incentives for the company to select options (regardless of

whether these are network or non-network based) that facilitate the provision of reliable energy delivery services at the least cost. In particular, the S-factor scheme allows the efficient level of reliability to be achieved through distributors balancing the costs of providing increased reliability against the avoided cost (marginal benefit) to customers from that increase in reliability. Regardless of the solution examined it is important that the value of customer reliability be included in the analysis. This is as relevant for demand side response as for any network or generation solution. Within this framework, and subject to the considerations noted in the previous paragraph, where DSP options facilitate the provision of an efficient level of reliability, they will be taken up.

Examples of demand-side and non-network options that have been taken up by Distribution NSPs in Victoria include the following:

- Bairnsdale Power Station (a gas-fired plant located in East Gippsland, Victoria) is contracted to SP AusNet's distribution business to be available to provide network support over the night-time peak at an output of up to 40 MVA. The network support from this generator has provided an alternative to constructing a planned 220kV transmission line and terminal station.
- SP AusNet's distribution business has made adjustments to time-switched water heating load in the South Gippsland area, to defer efficiently the need for augmentation of the sub-transmission and distribution networks in the area, thus reducing the overall costs borne by network users.
- Alinta AE and SP AusNet's distribution business have an agreement with Somerton Power Station to provide up to 70 MW of network support in the area supplied from Thomastown Terminal Station. (In addition, to minimise customer impacts following an unplanned transformer outage at the terminal station, the power station has also agreed to provide up to 140 MW of network support if requested.) These arrangements have enabled the distributors to defer efficiently the need to undertake network augmentations to provide reliable network services, thus reducing the costs borne by users.

SP AusNet is also currently exploring non-network options in Wonthaggi and Wodonga.

In terms of managing demand, SP AusNet also has an 'Interruptible' tariff available to medium sized customers in areas where supply constraints may be emerging. For customers that are willing to accept some or all of their load being interrupted for short periods, SP AusNet's tariff provides a discount on the standard tariff of around 30-40 per cent.

Currently all demand management costs will need to be recovered out of the savings that a Distribution NSP makes by deferring capital expenditure. A DSP-specific incentive would further facilitate DSP whilst addressing any perceived imbalance in the savings incentives for capital and operating expenditure. SP AusNet notes that DSP incentives have been introduced in some jurisdictions and suggests that evaluation of these and development of further improvement would be a worthwhile initiative.

SP AusNet notes that the AER has indicated that it is developing a national demand management incentive scheme (DMIS) in its Final Decision on a DMIS for the ACT and New South Wales, and more recently in its Issues Paper for the potential development of a DMIS for Queensland and South Australia. These documents canvass the following options:

- a demand management innovation allowance;
- a “D-factor” scheme such as that applied in NSW by IPART; and
- explicit recognition of DM expenditure in operating expenditure.

SP AusNet would support the strengthening of incentives for NSPs to pursue DSP as an alternative to other options available for addressing distribution network constraints.

2.2 Incentives for innovation on DSP under the building blocks form of regulation

SP AusNet agrees with the suggestion that there are insufficient incentives for network businesses to undertake research and development and innovation on DSP initiatives given the "cost of service" approach with periodic resets. SP AusNet would therefore support the inclusion of stronger incentives for network businesses to undertake innovation and research and development (R&D), and to explore further the potential of various non-network solutions. In this regard, it is noted that:

- the UK’s OFGEM (Office of Gas and Electricity Markets) has recently recognised the need to encourage R&D expenditure, given the uncertainty and long time horizons associated with the pay-off from such expenditure.
- Fully exploiting the potential of embedded generation and advanced interval metering will require substantial further R&D.

SP AusNet would support more detailed consideration and examination of the potential for strengthening incentives for R&D.

2.3 The form of price control

SP AusNet considers it unlikely that the current form of the price control acts as an impediment to DSP. At a distribution level, tariff basket regulation is intended to provide incentives (and the means) for distributors to structure prices so as to reflect the underlying cost of service. Prices structured in this way provide signals that encourage efficient levels of consumption, having regard to the cost of services being consumed as well as the cost of substitutes such as demand side participation. Such prices therefore encourage an efficient level of demand side participation.

For transmission, the form of control is revenue-capping, and therefore the potential concerns raised by the Issues Paper do not apply. From a broader perspective however, it is worth noting that a transition from the building blocks form of regulation to productivity-based approaches or other “light-handed” forms is likely to provide greater flexibility and incentives to network businesses to respond rapidly to the new challenges and opportunities that are emerging in the energy market. Greater

flexibility in the regulatory framework to adopt a lighter handed form of regulation would assist in facilitating DSP.

2.4 Tariff structures and efficient price signals

In relation to network pricing issues, the tariff basket approach as discussed above delivers strong incentives to NSPs to price efficiently. However it is important to recognise that there are some practical limitations to strengthening locational signals to end-consumers. In particular, SP AusNet notes that any move toward cost reflective locational price signals will inevitably lead to considerable price shocks on a geographic basis. Any such changes to network pricing will raise significant public policy issues and these will require careful consideration before any such move is implemented.

From a practical perspective however, it is important to recognise the role of retailers in passing network price signals on to consumers. SP AusNet considers that under the existing regulatory framework, NSPs have sufficient scope to set cost reflective charges, and this flexibility should be maintained. Any residual policy concerns regarding the structure of tariffs would need to be addressed in light of the role played by retailers in conveying these signals to consumers. More cost-reflective price signals will be enhanced considerably with the roll-out of smart metering in the near future.

3. Network Planning

3.1 The Regulatory Test threshold may be limiting the ability for alternatives to smaller network augmentations to be considered

SP AusNet concurs with the AEMC's observation that the costs of consulting on all network projects are prohibitive. In addition, many of these projects, considered individually, provide limited opportunity for individual DSP proponents. However, substantial detailed information is already published in Victoria regarding the nature and location of existing emerging constraints within the transmission network¹, transmission connection facilities² and the distribution networks³. This information effectively encompasses the impacts of smaller network augmentations, and provides details of the potential opportunities available to aggregators of DSP. On this basis, SP AusNet considers that the present Regulatory Test threshold does not limit the ability for alternatives to smaller network augmentations to be considered.

¹ This information is set out in VENCORP's Annual Planning Review report, which is published in accordance with the requirements of the National Electricity Rules.

² This information is set out in the Victorian Distributors' joint Transmission Connection Planning Report, which is published each year in accordance with the requirements of clause 3.4 of the Victorian Electricity Distribution Code. A copy of the report is available from SP AusNet's web site.

³ This information is set out in SP AusNet's Distribution System Planning Report, which is published each year in accordance with the requirements of clause 3.5 of the Victorian Electricity Distribution Code. A copy of the report is available from SP AusNet's web site.

3.2 The planning arrangements may not allow sufficient time for demand side options to integrate in the planning process

SP AusNet agrees that DSP depends on the provision of timely and accurate information regarding the opportunities to substitute for network projects. Indeed, as noted above, substantial information is presently available in relation to such opportunities.

It is also noteworthy that publicly available information addresses a planning horizon of 5-10 years, and that many network augmentations involve long lead times. SP AusNet therefore considers that the amount and timeliness of information available regarding potential DSP opportunities is more than adequate to facilitate a timely response by DSP proponents.

It is also important to recognise that timely investment by network businesses is required in order to maintain the reliability and performance of the network. The Rules already set out extensive information and consultation processes for TNSPs through the APR and regulatory test processes. Similar provisions exist within the jurisdictional arrangements that presently apply to SP AusNet's distribution network planning, and are likely to apply to DNSPs under the new national framework. We note that timely investment by NSPs maintained may be impacted by lengthy investigation of the capability and commitment of DSP proposals and negotiation of terms. Improved guidance on these aspects would facilitate improved integration of DSP into the network planning and investment process.

3.3 Consultation on augmentation options rather than on the needs of the network may create a bias against demand-side

The Issues Paper suggests that network businesses are likely to be inclined to plan to build the network option unless a more efficient alternative is identified. SP AusNet strongly disagrees with this view. As SP AusNet has an incentive to minimise costs, it will continue to assess network and non-network solutions accordingly. Although network companies may use network solutions as a benchmark against which other options are compared, this does not imply that there is a bias towards network solutions. Indeed, section 2.1 provided examples of situations in which non-network solutions were implemented by Distribution NSPs.

That said, as also noted in section 2.1 of this submission, SP AusNet would support the strengthening of incentives for NSPs to pursue DSP as an alternative to other options available for addressing network constraints. In this context, it is also worth noting that more broadly, improved incentives within the regulatory framework would ultimately help facilitate and encourage the improvement of current technologies and the development of new technologies within the DSP sector.

4. Network Access and Connection Arrangements

4.1 Arrangements for avoided TUOS and DUOS may under / over value demand management options

SP AusNet concurs with the AEMC that the rebate arrangements are likely to be an imperfect mechanism for encouraging the optimal sizing and location of embedded

generation. However, SP AusNet considers that it is not easy to fine-tune the rebate scheme to provide more precise locational signals. In fact, SP AusNet is increasingly finding that the calculation of rebates is a cumbersome arrangement that is likely to create an unreasonable administrative burden on distributors, especially given the growing number of embedded generators.

SP AusNet would therefore favour a review of the existing rebate arrangements with a focus on simplifying the administrative complexity. This review should also ensure that any such arrangements do not perversely increase the cost of electricity to customers connected to the affected transmission node.

Ideally, and as an alternative approach, a tariff could be developed that would provide broadly appropriate (and possibly more meaningful) signals to embedded generators, whilst avoiding the complexity of the current rebate arrangements.

4.2 Minimum technical standards for connection to the network may provide a barrier to potential embedded generation options

Like any other network user, SP AusNet believes that it is appropriate for embedded generators to satisfy the appropriate connection requirements, thereby ensuring that all network users have access to the network on fair and reasonable terms. In this regard, it would be inappropriate to argue that lesser connection requirements should be placed on embedded generators.

As importantly, however, it must be noted that other than the NER Access Standards and AS4777 there are currently no other published “connection standards” for embedded generators. From a practical perspective therefore, connection applications from embedded generators are currently assessed on a case-by-case basis. It may be appropriate therefore, to consider whether connection standards for embedded generators could be established that would provide better information on the minimum connection requirements. If successful, such an approach would deliver genuine improvements that would facilitate the connection of embedded generators.

4.3 Deep connection costs to the network may be a barrier to potential embedded generation options

The Issues Paper seeks views on the question of what is an appropriate framework to ensure consistency regarding the connection costs of embedded generators, noting the different treatment of connection costs across jurisdictions. SP AusNet’s experience is that regulatory reviews of connection policies often raise a number of unexpectedly complex issues. Whilst SP AusNet believes that a consistent NEM-wide approach to connection costs is a desirable policy objective, achieving this outcome for every case-by-case application may prove to be difficult in practice.

SP AusNet does not believe that existing connection policies create any material barriers to DSP in Victoria. In particular, it is noted that Victoria’s Guideline 15 (*Connection of Embedded Generation*) issued by the ESC:

- requires distributors in Victoria to apply a shallow connection charging policy for embedded generators; and

- defines shallow augmentation costs to include all the costs incurred by the distributor in providing dedicated connection assets and network augmentation up to the first point of transformation.

The ESC's Final Decision (dated 27 July 2004) on the Embedded Generation Guideline sets out the reasoning for the policy that applies in Victoria, and addresses issues canvassed in the AEMC's Issues Paper. It would be appropriate for the AEMC to examine the reasoning set out in the ESC's Final Decision in more detail during its review of DSP.

It may also be useful for the AEMC to examine more closely the provisions set out in VENCORP's *Victorian Electricity Transmission Network Connection Augmentation Guidelines* (issued in March 2007). The provisions set out in those guidelines blur to some extent the distinction between shallow and deep transmission connection policies, and arguably move the transmission arrangements in Victoria closer to a deep connection charging regime. SP AusNet therefore considers that the characterisation of "deep" and "shallow" connection policies set out in the Issues Paper is an over-simplification of the existing arrangements. Nevertheless, SP AusNet is not aware of any examples in Victoria in which connection charging policies have created a barrier to embedded generation.

4.4 Contracting arrangements for embedded generation may not reflect the network support benefits that can be provided

SP AusNet concurs with the views expressed by Grid Australia that when embedded generators are acting as a load, they should be treated on a comparable basis to other network loads.

The current Rules provide for negotiations between embedded generators and NSPs to be undertaken in good faith. SP AusNet interprets this requirement as encompassing recognition of the need for the parties to negotiate a reasonable allocation of performance risk (and associated financial rewards and penalties) between the parties. SP AusNet has negotiated contracts with a number of embedded generators installed within industrial and commercial facilities as well as with plant established solely for energy market function. Experience therefore suggests that contracting arrangements and the negotiations leading to the formation of network support contracts can and do reflect the benefits that can be provided by embedded generation.

5. Wholesale Markets and Financial Contracting

The wholesale markets and financial contracting matters raised in the Issues Paper are not network issues, and therefore SP AusNet does not have strong views on the issues raised. However, SP AusNet believes that DSP should be treated on an equitable basis compared with other participants in the NEM. On this basis, it would seem to be inappropriate to adjust the wholesale market arrangements to tilt the arrangements in favour of DSP. Indeed, any change that would have the effect of tilting or distorting arrangements to facilitate a particular outcome or technology would be unlikely to meet the requirements of the National Electricity Objective (NEO).

It appears to SP AusNet that some of the matters canvassed in the Issues Paper, for example VoLL and uplift payments to DSP, could be interpreted as unfairly benefiting DSP compared to substitutes such as remote generation, for example. SP AusNet would caution against making such changes to the market arrangements unless there is a compelling rationale for doing so. More importantly, as noted above, any such changes would have to be consistent with the requirements of the NEO.

6. Reliability

SP AusNet is also concerned that the Issues Paper appears to be considering changes to the Reserve Trader arrangements on the basis that DSP is less able to compete with other market participants. From SP AusNet's perspective, it appears that the matters raised in relation to Reserve Trader relate to the economic characteristics of DSP, rather than unfair impediments in the arrangements. In any event, SP AusNet concurs with the view expressed by Grid Australia that these issues properly fall within the domain of the Reliability Panel and, therefore, it may be appropriate for the AEMC to receive advice from the Reliability Panel as part of its review.

We look forward to further opportunities to engage with the AEMC in this review, and we would be pleased to respond to any queries you may have on our submission.

Yours sincerely,



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