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Australian Energy Market Commission
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By email: submissions@aemc.gov.au

ENA Response to AEMC Review Draft Report – Demand Side Participation in the National Electricity Market

The Energy Networks Association (ENA) welcomes this opportunity to respond to the Australian Energy Market Commission (AEMC) *Demand Side Participation in the National Electricity Market (NEM) – Draft Report* released on 26th April.

Energy network businesses deliver electricity and gas to over 13 million customer connections across Australia through approximately 800,000 kilometres of electricity distribution lines. There are also 76,000 kilometres of gas distribution pipelines. These distribution networks are valued at more than $52 billion and each year energy network businesses undertake investment of more than $5 billion in distribution network operation, reinforcement, expansions and greenfields extensions. Electricity transmission network owners operate over 57,000 km of high voltage transmission lines, with a value of $15 billion and undertake $1.6 billion in investment each year.

ENA welcomes the work the AEMC is doing to identify impediments in the regulatory framework to the efficient and effective use of demand side participation (DSP). This effort concurs with ENA's long held position that for DSP to be fully integrated into the mainstream network planning process it has to be put on an equal footing with established network augmentation approaches to energy supply. In this context ENA supports the AEMC Draft Paper's recognition of the bias relating to the different treatment of capital and operating costs in the regulatory framework and supports moves to remove these differences.

In its responses to the AEMC Draft Report (see Attachment) ENA notes the AEMC finding that price cap regulation provides a sufficient incentive for the socially desirable level of DSP. Given the developing nature of DSP services, ENA has generally believed that a DSP-specific incentive to encourage the exploration of solutions with DSP-providers and fund DSP options would further facilitate DSP.

However, ENA is prepared to tentatively accept the view that an incentive is not warranted on the understanding that further DSP-related regulatory obligations should not be required, or DSP expenditure mandated, given that the current framework is considered to provide sufficient incentives for efficient DSP. Further, any additional costs arising from changes to the regulatory framework, including distribution planning requirements, to facilitate DSP need to be justifiable and fully recoverable.

ENA's view is that the AEMC position will require time to ascertain its validity. Over time, if it appears that DSP uptake is below what is judged to be an efficient level or a level that meets national policy objectives, the issue of a financial incentive may need to be revisited.

In relation to incentives for research and development, ENA believes that network service providers should be allowed to recover all justifiable costs subject to Australian Energy Regulator (AER) oversight. This should ideally be on an ex-ante basis in the context of a regulatory review and the benefits retained beyond one regulatory period. Further, the magnitude of any innovation incentive needs to be substantive and much greater that the amounts provided for under the AER's Demand Management Investment Scheme (DMIS).

ENA is aware that the AEMC's Review of DSP extends to and overlaps with the work currently underway on the National Planning Framework and the AEMC Review of Energy Market Frameworks in the light of climate change policies. Separately, ENA also notes the overlap between this work and the Ministerial Council on Energy (MCE) activity on establishing a National Energy Customer Framework and the related National Energy Connection Framework. Accordingly, in its responses to the Draft Report ENA has referred, where appropriate, to its input to the aforementioned AEMC and MCE activity.

ENA looks forward to consultation with the AEMC on the matter of DSP both as part of this Review and the related more detailed considerations of DSP under the related Review processe mentioned above. In the mean time please contact me should you wish to discuss our responses further.

Andrew Blyth
Chief Executive

ATTACHMENT

ENA RESPONSE TO AEMC DRAFT REPORT – DEMAND SIDE PARTICIPATION IN THE NEM

Issue 1, Economic Regulation of Networks

Network prices and the ability of consumers to respond

AEMC claims that there are no obstacles to efficient pricing and consumption attributable to the regulatory framework with the financial incentives being strongest under a price cap.

ENA Response

ENA supports AEMC's finding that cost-reflective pricing facilitated in the price cap for regulation does not impede 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, in theory at least, encourage an efficient level of demand side participation.

Economic regulation and the profitability of DSP for networks

The AEMC finds that a price cap provides sufficient incentive for the purchase of a socially desirable level of DSP. Therefore regulatory measures such as the NSW "D-factor" are not required.

ENA Response

The ENA appreciates that the AEMC considers the current economic regulatory framework provides sufficient incentive to encourage efficient DSP. ENA understands the AEMC's view that there is no economic basis for providing DNSPs with additional incentives to achieve efficient levels of DSP. This outcome however does not take into account external policy drivers seeking to achieve lower energy consumption to meet international climate change objectives. It has always been our view that incentives would be required to assist in the development of this immature and infant industry if Australia was to meet its environmental policy goals within a required period.

IPART's "D-factor" incentive scheme recognised this and was instituted to encourage the development and establishment of an 'infant industry'. It appears to have fulfilled its objective, with IPART noting that:

> Between 2004–05 and 2005–06, NSW DNSPs spent approximately $8.26 million on 26 demand management programs under the D-factor scheme.[1] Over this period NSW DNSPs avoided $24.23 million of planned capital and operating expenditures through the approved demand management projects.[2] The impact of the D-factor on customer prices has been relatively small, with the largest impact being less than five cents on an average customer's annual bill.[3]

[1] IPART, *NSW Electricity Information Paper No 2/2007 - Demand Management in the 2004 distribution review: progress to date*, 2007, p. 3

[2] Ibid. p 4

[3] Ibid. p 5

ENA notes that currently all unforeseen demand management costs which are not provided for in regulatory allowances need to be recovered out of the savings that a Distribution Network Service Provider (DNSP) makes by deferring capital expenditure. Given the developing nature of DSP services, ENA has generally believed that a DSP-specific incentive to encourage the exploration of solutions with DSP-providers and fund DSP options would further facilitate DSP.

However, ENA is prepared to tentatively accept the view that an incentive is not warranted on the understanding that further DSP-related regulatory obligations should not be required, or DSP expenditure mandated, given that the current framework is considered to provide sufficient incentives for efficient DSP. Further, any additional costs arising from changes to the regulatory framework, including distribution planning requirements, to facilitate DSP need to be justifiable and fully recoverable.

ENA's view is that the AEMC position will require time to ascertain its validity. Over time, if it appears that DSP uptake is below what is judged to be an efficient level or a level that meets national policy objectives, the issue of a financial incentive may need to be revisited.

Economic regulation and financial risk for networks using DSP

The AEMC states that there is a bias arising from the different regulatory treatment of CAPEX and OPEX and states that this would appear to be an arbitrary disadvantage for DSP options.

AEMC states that it has made a Rule determination (following the TEC Rule change proposal on demand management) to align the risks and payoffs between capital and operating expenditures.

ENA Response

ENA identified this issue in its 20 June 2008 response to the AEMC's *Demand Side Participation in the National Electricity Market Stage 2 Issues Paper*. In this paper ENA stated:

> At its heart, network demand management (DM) is an economic trade-off between capital investment and operations costs. This occurs because the fundamental assumption in the regulatory framework is that networks earn a return on capital employed and merely recover operational costs. This has the tendency to create a perception that capital investment would be preferred to operating expenditure and could be a source of investment bias.
>
> Where incentives are applied to minimise operating costs separately to the controls on capital costs, these would act as a disincentive to pursue non network solutions.

Embedded generation projects and other DSP solutions can be in the nature of capital and/or operating expenditure. Any framework which removes barriers to DSP needs to treat DSP capex and network augmentation capex equally. However, the AER has indicated that any demand management capex spent within-period which has not been pre-approved in the price review process will not be rolled into the regulatory asset base (RAB). Under such an approach demand management capex is not being treated on an equal footing to network augmentation or replacement capex.

The above position would deter exploration of DSP solutions. Should the framework not allow DSP capex to be included in the RAB, it is effectively deterring a range of non-network solutions from consideration as it imposes a penalty associated with that capex.

ENA notes that the Office of Gas and Electricity Markets in the UK (Ofgem) is considering this issue and is seeking views on whether it should treat all direct costs (capex and opex) in the same manner to address any imbalance between these two forms of expenditure to

encourage greater demand management. The OFGEM, Electricity Distribution Price Control Review Policy Paper of 5th December 2008 states:

> Additional spending on capex is shared between customers and shareholders while opex is borne wholly by shareholders. This means that DNOs are more likely to adopt a conventional asset based network investment solution to any network constraints rather than exploring more efficient solutions involving people or other costs classified as opex. [Ofgem] received several responses to the initial consultation document advocating the removal of this barrier to encourage DSM and non-network solutions. This could be done by either applying a common capitalisation policy to all categories of network related costs or by allowing non-network solutions to be added to the regulatory asset value (RAV).[3]

ENA, in accord with the position outlined above, recommends that the AEMC seek to ensure that the NER allows all DSP capex to be included in the RAB.

Shifting expenditures from capital expenditures to operating expenditures

The AEMC identifies the application of the Efficiency Carry over Mechanism (ECM) to OPEX as penalising efficient substitution between network augmentation and DSP. AEMC options for removing this distortion include; removing the ECM from DSP or applying the ECM to DSP. AEMC is seeking stakeholder views on its findings.

ENA Response

In its June 2008 submission on DSP ENA's response to this issue was:

> ENA recognises that ECM schemes could have unintended consequences including acting as a disincentive for DBs to adopt DSP. In this context ENA notes that in NSW, the AER has recently stated that spending on DM projects would be excluded from the operating expenditure incentive scheme. Combined with the decision to continue the D-factor DM incentive scheme, this has neutralised this issue effectively.
>
> In ENA's view the demand side options should be considered on the same basis as other network options with risk considerations relating to DM being just part of the business prudence governance.

ENA continues to hold the view that the ECM scheme has the potential to impede efficient outcomes in the NEM and broadly supports the AER approach in NSW as stated above.

ENA therefore supports exclusion of DSP opex from the ECM and notes that AER has also committed to this in its DMIS for Victoria, South Australia and Queensland.

Incentives for Innovation

The AEMC states that the current building blocks framework provides relatively weak incentives for innovation. A possible option is to provide an allowance to DNSPs to recover expenditure for approved innovation projects outside the standard expenditure requirement. The AEMC notes that in other contexts this has been addressed by changing the regulatory framework to make allowances for innovation on a "use it or lose it" basis coupled with compliance reporting requirements. AEMC considers this an appropriate framework to apply to the NEM.

ENA Response

[3] See pp 37-38

The ENA supports the provision of incentives to DNSPs to enhance innovation provided it does not distort choices between R & D options.

Fully exploiting the potential of embedded generation and advanced interval metering will require substantial further R&D. Currently DNSPs have limited incentives to invest in R&D given they cannot retain the benefits of the significant investment required past the next regulatory review and there is the potential for DNSPs to lose money on innovations which fail. Given this, it is important that the regulatory framework encourage R&D and innovation to ensure that customers are provided with efficient, effective and flexible networks.

The framework should provide a means by which significant R&D initiatives are able to be funded. DNSPs should be allowed to recover all justifiable R&D costs subject to AER oversight. This should ideally be on an ex ante basis in the context of a regulatory review. Further, DNSPs should be allowed to retain the benefit of this work beyond one regulatory period. The magnitude of any innovation incentive needs to be substantive and much greater in magnitude than the amounts provided for under the AER's Demand Management Investment Scheme (DMIS). 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.

Issue 2. Service Incentives and Reliability Standards

Mandatory service standards – planning and reliability standards

The AEMC questions whether the requirement to consider a predetermined amount of redundancy (that is, an n-k planning standard) when demand is extremely high allows for the appropriate inclusion of DSP to provide reliability services.

The AEMC notes that in its Final Report to the MCE on Transmission Reliability Standards Review it recommended that transmission reliability standards be economically derived using a customer value of reliability or similar measure to be capable of being expressed in a deterministic measure.

ENA Response

The ENA's firm view is that if demand-side response providers want to the used in lieu of network augmentation then they must join with the DNSP in accepting the consequences of any failure to supply, whether under a service standard scheme of other wise.

ENA notes that unless demand-side response providers are willing and able to accept the risk of penalty under the service standard schemes, demand-side response must necessarily meet the same level of reliability as network augmentations. AEMC considers DNSPs can manage the risks of DSP impacting on their service and reliability performances by costing the risk. ENA observes that without a regulatory mechanism to address this risk DNSPs must factor the risk of penalties into the contract price which may make DSP more expensive.

Discretionary service standards – service incentive schemes

The AEMC does not consider that the existing service incentive schemes for transmission and distribution provide a barrier to DSP as the service incentive scheme allows the NSP to appropriately compare levels of reliability and continuity of supply with likely service penalties or benefits.

ENA Response

Achieving an efficient level of DSP will depend crucially on getting the balance right between the risks of attracting a service penalty against the reward of DSP.

Issue 3: Distribution Network Planning

Distribution network planning

The AEMC notes that the deficiency in the national framework with respect to planning acts as a barrier to DSP, noting that this matter is under consideration in its Review of Electricity Distribution Network Planning and Expansion.

ENA Response

ENA notes that the AEMC will be addressing this matter in the context of its *Review of Electricity Distribution Network Planning and Expansion*. ENA's position on this matter is set out in its submission to date on that review. ENA also notes that this matter has been under consideration as part of the AEMC Network National Framework of Network Planning Workshops 1 and 2 held on 27 May and 4 June 2009 respectively.

Consultation and case-by-case assessments

The AEMC states that a bias exists in the Regulatory Investment Test (RIT) against the consideration of DSP because the trigger for the Test is the value of the network augmentation process rather than the value of alternatives such as DSP.

The solution to this bias is addressed in the RIT for transmission which triggers the test on the basis of the value of the most expensive economically credible option. AEMC considers this trigger to be appropriate for distribution.

ENA Response

As stated in the ENA submission to the AEMC *Review of Electricity Distribution Network Planning and Expansion-Scoping Paper,* the ENA support a RIT for distributors which is broadly consistent with the RIT for transmission only where it is appropriate for distribution.

In response to Question 12 in that paper ENA stated that:

> ENA's position is that a distribution RIT should be consistent with the RIT for transmission investments, but simplified to reflect the narrower range of likely market benefits, the larger number of investment decisions undertaken and the generally shorter timeframe available to plan distribution investments. In the absence of a clear case for the materiality of market benefits, an important simplification would be to exclude the consideration of market benefits from the RIT-D.

Issue 4: Network Access and Connection Arrangements

The process of connection

The AEMC notes that generators with nameplate ratings of less than 5 MW may choose not to follow the connection processes in the Rules. If there is insufficient guidance for these parties there is an increased chance of inefficient delays and costs. AEMC is not convinced there is an issue here given that there are detailed connection processes set out in the Rules. However, AEMC refers to the MCE, 15th December 2008 policy response to the NERA/Allen paper on electricity distribution planning and connection noting that improvements in standard connection processes will provide additional support to small generators.

ENA Response

ENA has considered this matter in its response to the MCE paper where it has sought that specific obligations be placed on small generators.

Arrangements for Avoided TUOS

The AEMC considers that arrangements for avoided TUOS are appropriate and proportionate from the perspective of a small generator. Hence the arrangements do not constitute a barrier to DSP.

ENA Response

The ENA opposed the concept of avoided TUOS charges in accordance with its rationale as set out in its *"Embedded Generation Policy Framework Discussion Paper, November 2008*".

The ENA considers that avoided TUOS arrangements are inherently inefficient. Transmission Network Service Providers (TNSPs) are regulated under a Revenue Cap and therefore always recover from customers a fixed amount of revenue. This means, if a DSP initiative results in less energy travelling through the transmission network, a TNSP will under-recover on its Revenue Cap, and will therefore increase future charges to make up any shortfall. The DNSP, if required to pay the amount "avoided", will recover these costs from its customers. This means that all customers will pay twice – once for the DNSP payment, and again when the TNSP increases its charge to recover its revenue shortfall.

TNSP price structures also vary and the usage charge is based on a cost allocation process, then converted to a pricing structure, which is not necessarily reflective of costs. This component, if used to calculate avoided TUOS payments, will distort any price signals and result in an economically inefficient outcome.

As set out in Section 5.3.2, ENA only supports the use of network support payments to embedded generators, where the planning and RIT obligations under the Rules establish that such non-network solutions represent the most efficient means of alleviating a network constraint.

Issue 5: Wholesale Markets and Financial Contracting

Market participation procedures and costs of participating

ENA Response

ENA supports the AEMC's finding that DSP should access the wholesale market indirectly through service of trading contracts. This is a simpler and more effective way for DSP to be offered and traded in the market.

ENA also supports the use of DSP for ancillary services and should be facilitated where appropriate.

Making effective use of small embedded generation

The AEMC finds that there are only small barriers to the effective deployment of embedded generation and notes the work plans of MCE-SCO and NEMMCO.

ENA Response

The ENA notes that embedded generation is deployed for both short term (non-permanent) and long term (permanent) network support with the AEMC finding that barriers apply to the latter. Whilst the ENA supports the AEMC finding for permanent installations, it suggests that further consideration may need to be given to the situation for non-permanent EG installations.