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Dear Warwick

Demand Management Incentive Scheme and Innovation Allowance Consultation Paper

AusNet Electricity Services Pty Ltd (**AusNet Services**) welcomes the opportunity to make a submission in response to the Australian Energy Regulator's (**AER**) Consultation Paper on the Demand Management Incentive Scheme (DMIS) and Demand Management Innovation Allowance (DMIA) mechanisms. We also appreciate the opportunities provided to date, to participate in the AER's development of these mechanisms.

AusNet Services has implemented a number of demand management solutions in recent years, including using embedded generation to defer the replacement of a transformer at Traralgon zone substation in 2012, and fully exhausted its DMIA for the 2011-15 regulatory period. However much can be achieved with the introduction of stronger incentives through a DMIS and a DMIA.

Introducing incentives to encourage further adoption of demand management solutions through a DMIS, and innovation in novel technologies through a DMIA, will both develop the market for demand management services and ensure distributors are strongly encouraged to consider alternatives to investment in long-life network assets, where more flexible short term efficient alternatives may exist.

Enhanced incentives are likely to facilitate the development of mechanisms and platforms for 'grid service' markets that will add significant value for customers as the projected transformation of the electricity supply chain proceeds.

This submission sets out AusNet Services' positions on the various DMIA and DMIS design options discussed in the Consultation Paper, as well as some of other related matters raised in the Paper.

Demand Management Incentive Scheme

The Consultation Paper discussed four possible groupings of incentive mechanisms that could form part of a DMIS. The groups comprised:

- Targeted mechanisms to address specific perceived disincentives;
- A net-market benefit sharing mechanism;
- A mechanism that promotes the involvement of third party demand management providers to undertake demand management; and
- Demand management targets.

While the mechanisms set out in each of these groups are not an exhaustive list of potential incentive mechanisms, AusNet Services considers they represent a solid foundation to consult on and inform further development of the scheme.

Each of these types of mechanisms is discussed below. Compliance and reporting requirements are also addressed.

Targeted mechanisms to address specific perceived disincentives

AusNet Services largely supports the targeted mechanisms set out in the Consultation Paper.

In particular, providing an uplift on demand management operating expenditure similar to the Network Capability Component of the STPIS applied to TNSPs, would improve the financial attractiveness of demand management solutions at the planning/options analysis stage for replacement and augmentation projects. Depending on the uplift provided and resultant incentive strength, this would be expected to drive increased adoption of demand management solutions.

AusNet Services considers an uplift in the range of 30-50% balances the objectives of providing a sufficiently strong incentive to NSPs to change behavior, and ensuring consumers receive value from the scheme. We consider the wider benefits accruing across the supply chain from a demand management solution should be considered for when determining a suitable uplift rate. Furthermore and in keeping with the scheme principles set out in the Rules, this uplift should only apply to demand management expenditure that is shown to deliver net cost savings to customers.

AusNet Services supports a mechanism that, where an NSP can deliver capital expenditure savings by deferring projects using demand management, provides the NSP with the foregone return on and return of the deferred capex for a set period of time. This mechanism would align with and enhance the current incentives in the regulatory framework that encourage an NSP to minimise capex where an opex solution is more efficient. Again, the incentive power of this mechanism would depend on the period for which the foregone return is provided. A longer period will effectively increase the sharing ratio of the CESS and, in turn, strengthen the incentive to drive capex reductions through demand management.

While a scheme that provides an incentive based on the option value of a demand management solution has merit, the complexities of this mechanism means that it may not be suitable for introduction in the inaugural DMIS. Calculating option value typically requires the development of a statistical distribution of long-term demand forecast scenarios at a specific network location, adding complexity to this mechanism, as well as an increased administrative burden compared to other targeted mechanisms. It is therefore a more subjective, and less mechanistic, way of operationalising the scheme, which is not a desirable attribute of an incentive scheme.

It is noted, however, that a scheme that provided NSPs with a reward proportional to option value would create incentives to minimise the cost of the demand management solution (as

doing so would increase option value), strengthening the existing efficiency incentives in the regulatory framework.

AusNet Services supports providing an 'innovation return bonus' for DMIA projects that become business-as-usual demand management solutions. However, due to the uncertainty involved in innovation, distributors should not be encouraged to pursue only DMIA projects that are readily convertible into BAU solutions in the near-term. Such an approach could mean the most innovative projects are not undertaken due to the lower return they would generate for distributors. Accordingly, this mechanism should be paired with one of the above mechanisms as a complementary measure, rather than introduced as a standalone mechanism.

We do not support limiting STPIS penalties associated with demand management. While this would strengthen incentives to undertake demand management, it presents a distortion, transferring the risk of underperforming contracts onto customers. The risk of STPIS impacts can be dealt with economically through either technical means or contractual arrangements with third party providers. The NSP should also be encouraged to manage risk by diversity of arrangements and developing knowledge of demand management provider conformance.

Finally, in line with the current scheme, DMIA opex should be excluded from the EBSS as this expenditure will not form part of the opex allowances approved for distributors.

A net-market benefit sharing mechanism

AusNet Services supports a scheme that would provide distributors with a portion of the net-market benefits created by the implementation of demand management solutions.

We recognise that it may be difficult to estimate net-market benefits accurately because of the complex determinants of these benefits, including wholesale market outcomes and retailer behavior. However, there is merit in a scheme that sets out a transparent and straightforward estimating methodology for distributors to approximate, and receive a portion of, the net-market benefits of demand management solutions they implement.

Importantly, it would achieve the intended purpose of the scheme to provide distributors with an incentive to identify opportunities to undertake efficient expenditure on demand management incentives. The strength of this incentive would be dependent on the proportion of the market benefits that are rewarded to the distributor. This proportion should balance the need to provide distributors with a sufficiently strong incentive to change behavior, with ensuring consumers receive value from the scheme. AusNet Services considers the 50% proportion suggested in the Consultation Paper would strike an appropriate balance between these objectives, while aligning with the scheme principle that the level of incentive should be reasonable.

In designing such a methodology, the AER should be mindful of the trade-off between simplicity and accuracy. We consider a scheme that is relatively straightforward and mechanistic is more desirable than a complex but potentially more accurate scheme. This is because a simple scheme will ensure the incentive provided to distributors is not weakened by the administrative costs of participating in the scheme. At subsequent reviews of the scheme, the methodology can be refined further to reflect learnings from its first application with respect to its ease of use, administrative burden and accuracy.

AusNet Services supports the approaches to estimating net market benefits suggested in Energy Networks Australia's submission.

Therefore, despite the challenges involved in accurately measuring net market benefits, this should not preclude the AER from considering this option for the inaugural DMIS.

Incentives to promote involvement of third party providers

AusNet Services generally supports the involvement of third party providers of demand management solutions, due to the expertise and, in some cases, efficiency benefits they may provide relative to internal delivery. Furthermore, a mature and deep market for third party

provided demand management solutions is likely to increase competition among providers, driving down the cost of these solutions. However, we have concerns with the incentives created by a mechanism that solely rewards third party delivery. We consider such an approach would result in imbalanced incentives and create the potential for inefficient expenditure on demand management.

AusNet Services utilises both internal and external resources to manage peak demand. For instance, since 2013 AusNet Services has procured and deployed its own fleet of mobile generators to manage peak demand and defer network investment on a number of feeders and zone substations. In another case, we procured demand management as a service from a third party embedded generation developer to defer capital expenditure at Traralgon zone substation. Likewise, some of our load curtailment contracts with commercial and industrial customers are managed directly by internal staff, while others are delivered and managed via a third party aggregator.

Whether internal or external delivery, or an operational or capital solution, is preferable depends on the nature of the constraint and what the most efficient demand management solution may be. A mechanism that solely promotes third party delivery risks creating a perverse incentive to use a third party demand management provider, even if this is a less efficient alternative to an internal solution. This approach would not promote the long term interests of consumers, nor promote the DMIS objective of providing an incentive to undertake **efficient** expenditure on relevant non-network options.¹

Accordingly, we do not support the Consultation Paper's suggested 'bidding mechanism to encourage market delivery'.

Demand management targets

AusNet Services does not support the use of targets to encourage non network options.

As foreshadowed in the Consultation Paper, an overly complex process would be required to be undertaken to set targets, including establishing a baseline level of peak demand and adjusting actual outturn demand management for weather, major plant closures and energy efficiency. The approach does not align with NSP approaches to develop efficient network development plans.

Furthermore, setting targets requires establishing a desirable (i.e. efficient) level of demand management. If targets are incorrectly set, there is a risk DNSPs will over-invest in non-network options, with this investment ultimately funded by consumers. Conversely, distributors may avoid undertaking efficient demand management if the target level associated with a maximum reward has been reached.

For these reasons, we consider there are preferable alternatives to a target-based approach that would better promote the DMIS objective.

Compliance and reporting requirements

As recognised in the Consultation Paper, the reporting requirements under a DMIS will differ depending on the mechanisms adopted. We consider that reporting requirements should strike a balance between ensuring the AER is able to verify that efficient demand management has been undertaken and minimising the reporting burden distributors must bear to participate in the scheme. For example, the NCIPAP reporting requirements allow the AER to verify project completion, but are not so onerous as to discourage distributors from undertaking NCIPAP projects.

We generally support the illustrative reporting requirements set out in Table 10 of the Consultation Paper for the mechanisms supported in this submission and agree that pre- and post-project reporting is necessary to implement the scheme.

¹ NER, 6.6.3(b)

However, we note that in setting reporting requirements and rewards under the scheme, caution should be had to ensure distributors are not penalised due to changing exogenous circumstances that lead to a different level of outturn demand management to that originally planned. This approach ensures that the incentives provided by the scheme are not weakened by overly prescriptive pre- and post-project reporting requirements or by a diminution of the scheme rewards.

Demand Management Innovation Allowance

Minor extension of status quo

Due to the significant and unprecedented technological change the electricity sector is undergoing, there is a need to provide greater scope and funding for innovation in the sector. Accordingly, a minor extension of the existing DMIA is not AusNet Services' preferred design option.

While the changes suggested by the AER – CPI indexation, refinement of the reporting requirements and clearer assessment criteria – would maintain the value of the DMIA in real terms and improve the quality of information available to the public, we do not consider the current DMIA has sufficiently allowed for the full exploration of potential demand management solutions.

Hence, the minor changes suggested may not, to the greatest extent, achieve the objective of the DMIA mechanism, which is to provide distributors with funding for R&D in demand management projects that have the potential to reduce long term network costs.

While the AER notes that a number of distributors underspent their allowances during the 2011-15 regulatory control period, a number of distributors, including AusNet Services, overspent their allowances. Successful DMIA projects undertaken by AusNet Services in the 2011-15 period include the 1MW/1MWh Grid Energy Storage System, the Residential Battery Storage Trial, the Murrumbidgee hot water time clock adjustment project and the Murrumbidgee Sustainable Energy Study. However, due to a lack of funding, we were unable to pursue a residential demand response trial based on AMI data or a proof of concept for air-conditioning load control via Demand Response Enabling Device.

This experience highlights that there is a need to provide greater scope and funding for innovation, particularly at a time where the electricity industry is undergoing significant change in the services demanded by consumers, and in the innovative technologies that might enable the delivery of these services in the most efficient manner.

We note that in our Regulatory Proposal for the 2016-20 period, we sought an increase in the DMIA from \$0.6M to \$2M per annum, which the AER did not accept. Importantly, under the Rules governing the scheme now being developed, the AER has the discretion to vary the allowance provided to distributors.²

For the above reasons, we consider there is merit in providing distributors with a high cap allowance, as discussed in the next section.

High cap allowance

We support the application of the high cap allowance option put forward in the Consultation Paper.

As discussed in the previous section, there is a demonstrated need for an increased allowance to ensure all innovative projects that have the potential to reduce long-term network costs are pursued. Importantly, the allowance is provided on a 'use it or lose it' basis (i.e. non-compliant DMIA expenditure is 'paid back'). This mechanism ensures that consumers and the broader

² NER 6.6.3A(c)(3)(iii)

community will receive value from a scheme that provides a higher allowance than that allowed for currently.

However, we do not consider the allowance should be scaled for larger NSPs in a linear fashion, such as the percentage of MAR or of capex approaches suggested by the AER. Such an approach would limit the range of projects able to be pursued by 'smaller' distributors, despite their equal or similar ability to their larger peers to undertake such projects. Instead, an allowance should be provided that is determined in a non-linear fashion (e.g. allocating DNSPs to allowance brackets based on MAR).

We also consider that ex ante approval of a DMIA at the regulatory determination stage should only set the size of the DMIA, not bind NSPs to deliver the proposed projects. This is consistent with the ex-ante approach taken to expenditure allowances under the current regulatory regime, which do not bind networks to delivering specific projects. There should be flexibility to allow networks to tackle the most promising projects when they arise, particularly given the extent to which rapid technological change can occur during a regulatory period.

Finally, we consider that an adjustment to account for capex savings made as a result of successful DMIA projects is not warranted. The novel nature of DMIA projects is such that it is unlikely distributors will be able to use project findings to implement non-network solutions that deliver capex saving within the same regulatory period. Further, enshrining such an adjustment in the scheme may erode the incentive to undertake such DMIA projects in the first place.

Bidding to encourage R&D

AusNet Services generally supports a mechanism that allows networks to compete for innovation funding.

However, we consider this option should only be implemented as a complementary measure to the high cap allowance mechanism. That is, networks would be awarded a DMIA and also be given the opportunity to compete for additional funding in a competitive process.

Importantly, due to the administration costs that would likely be incurred when lodging a bid for funds, combining the two mechanisms would provide opportunity for a network to bid for funds when it has exhausted its DMIA but still has a particularly meritorious project it wishes to undertake.

A large funding pool (i.e. \$20M+) would need to be made available to ensure worthwhile projects are not precluded due to lack of funding.

Bidding to encourage market-facilitated R&D

AusNet Services generally supports a mechanism that incentivises networks to encourage third party deliver and/or to partner with third parties. However, we consider this option should only be implemented as a complementary measure to the high cap allowance mechanism.

In isolation, this measure would not be effective as it would preclude distributors from undertaking projects internally, which may be the most efficient approach for certain non-network solutions. It would also render distributors unable to avoid the administrative costs of running an auction process, allocating funds and establishing partnerships.

However, we see value in this option as a complementary measure to the high cap allowance because it would provide an incentive for NSPs to tap into third party expertise (e.g. universities, demand management providers) where doing so is desirable to good project outcomes, and lead to greater dissemination of study findings.

Compliance and reporting requirements

AusNet Services agrees with the AER that more strict and comprehensive reporting requirements are desirable to improve the quality of information reported by networks following

the successful completion of a DMIA project. This will ensure research findings are widely disseminated and, importantly, the benefits of DMIA projects can be built upon by other industry participants.

We agree with the list of indicative project approval criteria set out in the Consultation Paper.

We consider the definition of 'innovative' in the scheme should be broader rather than prescriptive, to ensure innovative projects with the potential to reduce demand that may not be considered 'traditional' demand management R&D are included in the scheme's scope. Importantly, the AER has the discretion to disallow DMIA projects that it considers to not meet the scheme's criteria.

Other matters

Current barriers to demand management

The Consultation Paper identifies a number of characteristics of the current incentive arrangements that may interact with the incentives to deploy non-network solutions.

While we agree with the AER that increased uptake of demand management has to date faced some barriers, such as distributors' inability to monetise value accruing to the broader electricity value chain, we consider that the last five years have seen substantial progress in the industry's understanding and adoption of non-network solutions.

For instance, AusNet Services maintains a portfolio of 20 MW of commercial and industrial load curtailment contracts which it began establishing in 2012 as a pilot, manages a 10MW network support contract based on embedded generation established in 2012, and operates 4MW of mobile generation that was established in 2013. These contracts have successfully deferred millions of dollars of capital expenditure and reduced risk levels on the network.

Furthermore, we have undertaken a series of advanced battery storage trials, and recently partnered with GreenSync to successfully launch Australia's first energy mini grid in April 2016, which involves the deployment of solar PV and battery systems to 14 households together with a distributed energy platform that allows control and optimisation of local power flows. The findings of this study will inform the future deployment of alternative technologies that we are confident will drive long term reductions in network costs.

The above activities suggest that DNSPs are cognisant of the value provided by demand management relative to network solutions, and are taking steps to realise these benefits. These developments also indicate that the scope for increased adoption of demand management under a true incentive scheme is significant.

We, therefore, support the strengthening of incentives through the DMIS and DMIA mechanisms currently being explored by the AER. We see value in mechanisms that ensure the market for the provision of non-network solutions continues to mature and deepen and, ultimately, results in more efficient services and better consumer outcomes.

Scope of the new rule

We consider that the scheme's interpretation of the term 'non network option'³ should be as broad as possible and not preclude any opex or capex solution that, as an alternative to investment in a network option⁴, can be used to manage demand.

This principled approach will lead to a wider range of solutions being consistent with the DMIS objective of providing 'an incentive to undertake efficient expenditure on relevant non-network options relating to demand management' and, hence, being adopted by networks.

³ Defined under the Rules as "A means by which an identified need can be fully or partly addressed other than by a network option."

⁴ Defined under the Rules as "A means by which an identified need can be fully or partly addressed by expenditure on a transmission asset or a distribution asset which is undertaken by a Network Service Provider."

In relation to the DMIA, we consider the criteria that are ultimately enshrined in the scheme – which must reflect the Rules defining DMIA projects (i.e. projects should be innovative, have the potential to deliver ongoing reductions in demand or peak demand and not be provided for in a regulatory proposal)⁵ – should be so broad as to include, for example, the following types of projects:

- Technologies and platforms that allow networks to explore smart technology to integrate distributed energy resources and reduce long term network costs; and
- Studies that improve networks' understanding of customer behaviour, which can be leveraged to deliver ongoing demand reductions.

In contrast, a narrower definition will run counter to the objective of encouraging distributors to deploy a range of solutions that have the potential to reduce peak demand and reduce long term network costs, eroding potential consumer benefits.

Contestability of energy services rule change

The design of the DMIS and DMIA, including the stipulation of which services are eligible for scheme rewards, should be consistent with the outcome of the contestability of energy services rule change, to ensure alignment between incentive arrangements and the provision of energy services, including the classification of distribution services.

As stated in our submission to that rule change, we consider that the regulatory framework must promote efficient service provision by the DNSP, and it is not clear that imposing constraints on how services – including demand management solutions – are obtained by the DNSP can facilitate this objective.

There is even a risk that imposing such constraints could significantly limit the economic take-up of new technologies by networks for the benefit of customers, running counter to the DMIS and DMIA objectives of increasing demand management uptake and, ultimately, reducing long term network costs.

It is also worth reflecting on the early stage of market and technical development around new technologies such as battery storage. All sectors of the energy industry are building experience and knowledge around the value of new technologies and it would be premature to impose constraints on procurement at this early stage.

AusNet Services supports the submission made by ENA to the Consultation Paper.

We would be happy to meet with AER staff to further discuss this letter. If you have any queries in relation to this submission, please contact Rob Ball, Senior Economist on 03 9695 6281.

Yours sincerely,



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⁵ NER 6.6.3A(c)(2)