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Ms Kami Kaur

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Australian Energy Regulator

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AER Issues Paper – Demand management innovation allowance mechanism

Dear Ms Kaur

Energy Networks Australia welcomes the opportunity to provide a response to the Australian Energy Regulator (AER) Issues Paper on the Demand Management Innovation Allowance Mechanism (DMIAM) for electricity Transmission Network Service Providers (TNSPs).

Energy Networks Australia is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide more than 16 million electricity and gas connections to almost every home and business across Australia.

Energy Networks Australia supports the work undertaken by the AER to develop the DMIAM for transmission. Energy Networks Australia recognises the challenges posed by the pandemic and the extent of regulatory reform occurring. The AER highlights that the DMIAM is unlikely to be published by 31 March 2021 and indicates a date of June 2021 is more realistic as stated in the revised market body prioritisation framework. One TNSP will have submitted their revenue proposal with the revised proposal due in September and another TNSP has their revenue proposal due at the end of October. The delayed finalisation of the DMIAM is on the outer limit to meet these submission dates and we are keen to ensure there are no further delays.

Level of DMIAM Allowance

The AER note the annual allowance for DNSPs for the DMIAM is approximately $10 million per annum[1]. TNSP revenue is about 25% of DNSP revenue and hence the 0.1% MAR proposed provides much more limited funds for innovative projects. As the AER notes this may enable 1 or maybe 2 innovative projects across a five-year period for

[1] AER Issues Paper, Demand Management Innovation Allowance Mechanism, Transmission Network Service Providers, August 2020, Table 4

the larger TNSPs. The level of allowance needs to be sufficient to incentivise TNSP participation taking into account the reporting and compliance requirements proposed.

TNSPs should be afforded a higher %MAR. If funds are not used, they are refunded to customers.

Energy Networks Australia recommends 0.2% MAR be adopted (approximately $5 million per annum or about $0.50 per customer per annum[2]), this will provide TNSPs greater funding and is only half the allowance spent nationally by DNSPs. A higher allowance will also provide smaller TNSPs a level of funding that will allow them to comply with reporting and compliance requirements and contribute funding towards joint projects.

The industry is undergoing a significant transition to lower emission variable generators. The changes in generation mix, the volume, location and type of generation, mean that transmission networks need to become more innovative and flexible about managing demand on the network, both in terms of locational trough filling and system protection schemes.

Energy Networks Australia does not concur that just because some battery trials have been undertaken that there is no need to undertake further trials. Battery/inverter technology is changing and as costs reduce the scale at individual connections will increase. Recent media has suggested that battery projects of over 3,000MW are in the pipeline and technology will continue to change. TNSPs need to undertake R&D to assess how networks and control schemes will need to change.

Energy Networks Australia supports the flexibility for TNSPs to work within the cap across the 5-year period. The ability to collaborate with other TNSPs or DNSPs on projects to enable larger projects is also supported, this may also mean that some projects may have commitment across a regulatory period for a party.

An improved definition of demand management should be adopted

The AER has interpreted demand management for transmission as modifying the drivers of network *peak* demand usage patterns in a way that *will* deliver long term benefits to consumers.

Energy Networks Australia considers that the scope of eligible projects under the scheme should be interpreted as broadly as possible. We are concerned that the AER's interpretation of the definitions may prohibit TNSPs delivering a range of demand management initiatives.

The objectives of the scheme under 6A.7.6 (b) is to enable the demand management innovation allowance mechanism to provide TNSPs with funding for R&D in demand management projects that have the potential to reduce long term network costs (the demand management innovation allowance objective)

[2] Assumed 10 million NMI's in the NEM, AEMO 2020-21 Final Budget and Fees, p8

A broader definition of demand management should be adopted to recognise that demand management need not be specific to removing network constraints at peak demand. Many of the challenges for networks are being driven by the supply side, innovation should not be restricted to *peak* demand usage patterns but rather refer to modifying the drivers of network demand patterns. Minimum demand and negative demand should also be able to be considered. A broader definition may also provide greater levels of innovation in relation to technology and technique to remove network constraints and enable potential to reduce wholesale market prices. Energy Networks Australia suggests using the Distribution DMIAM definition where an eligible project must be a project or program for researching, developing or implementing demand management capability or capacity.

The AER note that research and development typically has some risk of failure and may result in long term benefits to consumers. The AER's definition should recognise this risk and refer to projects that have the potential to deliver long term benefits to consumers.

The concept that projects must not be known to be an efficient and prudent technology or technique is supported. Energy Networks Australia also supports testing new technology or techniques with consideration of geographic and demographic characteristics with the new or original concept, it is important that technology or technique is critiqued against the local operational conditions on the transmission network.

DMIAM mechanism

The AER has proposed ex-post review of DMIAM projects and the establishment of an independent expert panel to critique projects that may be selected.

Energy Networks Australia support ex-ante review of DMIAM projects. This would ensure that the AER independently considers projects in advance which aids confidence and transparency for stakeholders. A network capability incentive parameter action plan (NCIPAP) type approach could be adopted to justify projects up front and ex-post review on the costs. NCIPAP has been successful in facilitating improvements in the capability of transmission assets. This mechanism is operating successfully and is similar to the approach for the distribution DMIAM. This may also be able to negate the need for an independent expert panel to review TNSPs projects. DMIAM projects could be assessed by utilising the existing consultative approaches already adopted as part of the development of TNSPs revenue proposals.

Energy Networks Australia supports a 50% uplift factor similar to the approach in the NCIPAP scheme.

Reporting of the project elements as outlined and the sharing of learnings across TNSPs is supported. Reporting obligations should be proportionate to funding or size of the projects. Additional independent expert reviews will add to the compliance costs of the scheme and seems disproportionate to the value of the scheme proposed by the AER and may act as a disincentive to innovation.

Energy Networks Australia has provided responses to the AER's questions in the Attachment.

Should you have any queries on this response please feel free to contact Verity Watson, vwatson@energynetworks.com.au.

Yours sincerely,

Andrew Dillon
Chief Executive Officer

Attachment

AER Question	Response
Question 1 Do you agree that the DMIAM should adopt a cap of up to 0.1 per cent of MAR per regulatory period (this is equivalent to $1 million for small size TNSPs and to $5 million for large TNSPs over a five-year regulatory period)?	Energy Networks Australia considers that the DMIA of 0.1% MAR is too low for transmission businesses at a state level. This provides minimal funding and may only allow 1 or 2 innovative projects across the regulatory period. For a small TNSP it may not even allow 1 of the projects in the AER list. Energy Networks Australia suggests 0.2% MAR would be more appropriate, and in the instance where funds are not spent, they are returned to customers. This value is still well below what is spent at state level across distribution businesses. The flexibility to be able to pool funds into a larger project across the regulatory period is supported. It is possible that demand management contracts may need upfront payments to get them started which could exceed the yearly threshold, and then require smaller ongoing payments in subsequent years. Flexibility to use funds within the overall cap is seen as beneficial. The DMIAM should also allow flexibility to pool funds across TNSPs and between DNSPs/TNSPs. This may allow increased collaboration across TNSPs or across all voltages levels to better manage demand with the potential to reduce long term network costs overall.

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AER Question	Response
Question 2 In recognition that business studies on continuous improvements are BAU activities, what types of desk top DM studies should be allowed under the DMIAM?	Examples of innovative demand management studies, which are unlikely to be funded as BAU activities, could include modelling future potential sources of demand/generation (hydrogen electrolyser operating profiles, vehicle to grid functionality of electric vehicles) on the transmission network. TNSPs would likely need to engage subject matter experts from academia/industry to provide input, collaborate, and to assess their potential to either become viable non-network options and reduce/avoid new network expenditure in the future.
Question 3 Do you agree that the DMIAM allowance should be spent on opex only and approved by the AER on an ex-post review basis?	Energy Networks Australia support ex-ante review. This would ensure that the AER considers projects in advance which increases transparency for all stakeholders. A NCIPAP model could be adopted to justify projects up front and ex-post review on the costs. This is a known model already in place in transmission and is similar to the approach for the distribution DMIAM. This may also be able to negate the need for an independent expert panel to review TNSPs projects. Energy Networks Australia does not agree that the DMIAM should be limited to opex. Capital expenditure should not be precluded from the allowance, any capital that may be spent would be minor in nature as its limited by the size of the allowance. Limiting to opex may constrain innovation of special protections schemes or network modelling (eg

AER Question	Response
	PSCAD) to better manage the interactions on the power system which are becoming more complex. This type of project and implication of battery storage and switching from fast charge to fast release and impacts on transmission services and system security should be included within the allowance. It is not possible for third parties to deliver/implement control scheme changes or network diagnostics to collate impacts and learnings.
Question 4 Do you agree that the DMIAM should provide an uplift to projects that provide nonnetwork solutions? What should be the level of uplift (if uplifts are consider appropriate)? Do you consider an uplift on actual expenditure is justified, given that the uplift reduces the effective capped amount of the allowance?	Yes, agree that an uplift should apply to non-network solutions and apply above the cap. A 50% uplift should be adopted similar to the NCIPAP scheme.
Question 5 Do you agree that the DMIAM should allow multiple NSPs to collaborate, by pooling funding, to jointly fund DM projects?	Yes, refer to response in Q1. Energy Networks Australia agrees that any allowance not spent by the end of the regulatory control period, and not forecast to be used in a project underway that spans across the end of one NSPs control period in any collaborative project, should be refunded to customers. Agree that TNSPs need to manage the costs within the allowance.

AER Question	Response
Question 6 Do you agree that only projects not known to be otherwise efficient and prudent, that should be undertaken as a business as usual activity, should be included in the DMIAM funding? If so, how should this test be applied in practice?	Energy Networks Australia suggests that the definition be about seeking to modify demand patterns that have the potential to deliver long term benefits to consumers. Energy Networks Australia does not agree to the interpretation of demand management only dealing with the drivers of network *peak* demand usage patterns in a way that *will* deliver long term benefits for consumers. A broader definition of demand management should be adopted to recognise that demand management need not be specific to removing network constraints at peak demand. Energy Networks Australia suggests using the Distribution DMIAM definition where an eligible project must be a project or program for researching, developing or implementing demand management capability or capacity. As the AER note, the intent is to encourage research and development, in any research there can be benefits and there can also be learnings from failures. The DMIAM projects should have the potential to deliver long term benefits to consumers, and not every project will deliver benefits. Peak demand is one driver of network expenditure, minimum operational demand and other network constraints also need to be managed as the generation mix transitions to higher penetrations of renewables and intermittent generation. Transmission expenditure to a fair degree is being driven by supply side changes and not peak demand. It is important

AER Question	Response
	that system reliability and security is maintained throughout this transition and the needed research and development is undertaken proactively. Energy Networks Australia agrees some technologies or non-network options may not be taken up due to higher levels of uncertainties and risk attributed to the project. The concept that projects must not be known to be an efficient and prudent technology or technique is supported.
Question 7 Should the allowance only apply to projects that are based on new or original concepts? How should we be satisfied that the criteria have been met for the proposed projects? How shall we consider the context in TNSPs' operational environment in this regard?	Agree that geographic and demographic characteristics need to be considered with the new or original concept. It is important to consider the efficient use of the allowance with the need to move projects from R&D stage to being able to operationalise them in the provision of transmission services. Each transmission network has different characteristics and localised power system and network operational issues.
Question 8 Do you agree that the DMIAM should be extended to projects that have potential to reduce wholesale market prices, where those projects also have potential to reduce future network augmentation in the long-term?	If the AER adopts a broader definition of demand management this may provide greater levels of innovation in relation to technology and technique to remove network constraints and enable potential to reduce wholesale market prices, which eventually lead to customer benefits.
Question 9 How might we best give effect to or enhance the information and reporting requirements discussed in section 6.1 below?	Streamlined project reporting and approvals processes are supported. The level of detail required should also be streamlined and focus on demonstrating that project activity is in line the nature, scope, aims and expectations. It is

AER Question	Response
	important that project scope, aims and key benefits are shared.
Question 10 What details of the learnings gained from eligible DM projects should be included in public reporting?	Project elements outlined in Table 6 are supported for public reporting.
Question 11 What are your views about requiring TNSPs to seek independent expert review of proposed DMIAM projects (whether by an individual expert or by a panel)? Would a panel be preferable to an individual expert? What is the preferred composition and skill mix for such panels?	TNSPs have sufficient expertise to consider and evaluate options. If a NCIPAP or ex-ante approach is adopted, then there is also additional review by the AER. TNSPs could include consultation with their existing consultative committees in formulating and selecting projects. Additional independent expert reviews will add to the compliance costs of the scheme and seems disproportionate to the value of the scheme proposed by the AER and may act as a disincentive to innovation. This has not been a requirement under the Distribution DMIAM and hence should not be adopted here.
Question 12 Should the cost for independent expert review of proposed DMIAM projects (whether by an individual expert or by a panel) be a part of the DMIAM expenditure?	Yes, if there are additional costs.
Question 13	Agree that TNSPs should share learnings from these projects and consider that publishing names of those who don't share

AER Question	Response
We encourage TNSPs to share with others what they have learned as a result of undertaking the trials. Do you agree that the AER should publish the names of those TNSPs who do not share what has been learnt as a result of projects funded by the DMIAM?	is unnecessary. This has not been a requirement of the Distribution DMIAM. TNSPs can also seek recognition for innovative projects in Energy Networks Australia annual awards which are judged by an independent panel.
Question 14 Should the AER approve DMIAM funding for only those DM projects where learning information has been shared with other TNSPs? What would be the appropriate time period for that information to remain available, under the DMIAM, to other TNSPs? Should funding approval be withheld if information is not shared?	This has not been a requirement under the Distribution DMIAM and hence should not be adopted here. Energy Networks Australia expects the AER to publish the DMIA reports on its website. The AER can choose the time period that these are made available. This may be a balance between reports which become outdated over time with new learnings and also the need to maintain the website so reports can be readily found.
Question 15 Where exceptional circumstances occur that a particular TNSP would not share its learnings, do you agree that the AER should obtain detailed results from the TNSP for publication so that the learnings can be accessed by stakeholders?	Energy Networks Australia considers that this is unnecessary in light of the agreement to report and share project findings.