Explanatory statement

Draft demand management innovation allowance mechanism

Electricity transmission network service providers

December 2020

AUSTRALIAN ENERGY REGULATOR

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AER reference: AER200885

Contents

Invitation for submissions

Interested parties are invited to make submissions regarding this draft demand management innovation allowance mechanism (DMIAM) by the close of business **12 February 2021**.

We will consider and respond to all submissions received by the date in our final DMIAM.

Submissions should be sent to: AERInquiry@aer.gov.au.

Alternatively, submissions can be sent to:

Ms Kami Kaur
Acting General Manager
Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Submissions should be in PDF, Microsoft Word or another text readable document format.

We prefer that all views and comments be publicly available to facilitate an informed and transparent consultative process. Views and comments will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information should:

1. clearly identify the information that is the subject of the confidentiality claim
2. provide a non-confidential version of the submission in a form suitable for publication.

All non-confidential information will be placed on our website. For further information regarding our use and disclosure of information provided to us, see the ACCC/AER Information Policy (June 2014), which is available on our website.[1]

[1] https://www.aer.gov.au/publications/corporate-documents/accc-and-aer-information-policy-collection-and-disclosure-of-information

Shortened forms and glossary

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Allowance Objective	The demand management innovation allowance objective for TNSPs.
ARENA	Australian Renewable Energy Agency
AR	allowed revenue
capex	capital expenditure
CESS	Capital Expenditure Sharing Scheme
demand management, in transmission network context	For the purpose of the transmission DMIAM mechanism, the act of modifying the drivers of the pattern of network usage that will deliver long term benefits to consumers
DM	Demand Management
DMIAM	Demand Management Innovation Allowance Mechanism for TNSPs.
DMIS	Demand Management Incentive Scheme for TNSPs.
EBSS	Efficiency Benefit Sharing Scheme
kVA	A kilo Volt-Ampere or 1,000 Volt-Amperes
MAR	maximum allowed revenue
MWh	Mega Watt hour
NCIPAP	Network capability incentive parameter action plan for TNSPs
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
Opex	operating expenditure
TNSP	Transmission Network Service Provider

1 Summary

This explanatory statement and the draft Demand Management Innovation Allowance Mechanism (the DMIAM) represent our formal consultation with stakeholders on the proposed DMIAM, pursuant to the National Electricity Rules (NER).[2] Prior to this paper, we released an issues paper seeking preliminary views on relevant matters.[3]

The DMIAM provides an allowance to transmission network service providers (TNSPs) to undertake innovative projects related to demand management. Under the NER, the DMIAM must meet the objective of funding TNSPs for research and development (R&D) in demand management projects that have the potential to reduce long-term network costs (Allowance Objective).[4]

We initiated our consultation process for the development of the DMIAM by publishing an Issues Paper (the issues paper) on 14 August 2020. The issues paper sought stakeholders' feedback on issues relevant to the design of the DMIAM, to inform the development of a robust, fit for purpose allowance mechanism.

After reviewing stakeholders' submissions to the issues paper, we have prepared a draft DMIAM and an explanatory statement for further consultation. This became the second step in our process to publish a DMIAM. Appendix A presents our response to submissions from stakeholders.

Following this consultation, we will publish the final DMIAM, taking into consideration stakeholders' submissions, prior to finalising this document.

Our proposed timeline is set out at section 1.2 below.

1.1 Structure of this explanatory statement

This explanatory statement accompanies our proposed (draft) DMIAM Scheme document to explain the reasons for our draft decision on this matter. It aims to assist TNSPs and other stakeholders in understanding the framework of the proposed DMIAM. It also explains our considerations in designing the DMIAM, including our consideration of views that stakeholders expressed to us in submissions and other forums.

This paper is structured according to the following key themes:

- Chapter 2: About the Mechanism
- Chapter 3: Design of the Mechanism
- Chapter 4: Identifying eligible projects

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2 NER, cl. 6A.7.6.

3 https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/demand-management-innovation-allowance-mechanism-transmission

4 NER, cl. 6A.7.6.

- Chapter 5: Assessment and compliance reporting
- Chapter 6: Application of carryover

1.2 Indicative timelines

Figure 1 Key dates for establishing the DMIAM

Task	Date
AER published issues paper (completed)	14 August 2020
Submissions on issues paper (closed)	2 October 2020
This Draft decision on new DMIAM (with Explanatory Statement)	17 December 2020
Submissions on draft decision due	12 February 2021
Final DMIAM published (with Explanatory Statement)	June 2021

Note: Given the current circumstances that may impact on the ability of stakeholders to respond, timelines are indicative and subject to change. Due to the COVID-19 interruption, we are unlikely to publish the DMIAM by 31 March 2021. We have flagged our intension to delay and have the scheme finalised in the first half of 2021, as indicated in Joint market body prioritisation framework - COVID-19, released by AER, AEMC and AEMO on 19 May 2020.

2 About the Demand Management Innovation Allowance Mechanism

The objective of this Mechanism is to provide an allowance to TNSPs to undertake not fully proven demand management projects and programs. Such activities have a level of risk of not able to deliver a favourable outcomes. Thus, without this allowance, TNSPs may be less inclined to try out new ideas to manage their networks. While there is a risk that projects funded by allowance may not result in a successful outcome, some new initiatives can result in significant long-term benefits to consumers in reducing network investments. This means that there are significant potential costs to consumers if the projects that would be funded by the allowance do not proceed.

This section sets out the rationale and key elements for the proposed draft DMIAM in the context of contributing to the National Electricity Objective (NEO) and the rule requirements.

2.1 Background to the Mechanism

Energy Networks Australia (ENA) submitted a rule change request to the AEMC, proposing amendments to the NER that would require the AER to implement a demand management incentive scheme (DMIS) and demand management innovation allowance mechanism (DMIAM) to apply to transmission network service providers (TNSPs).

The AEMC released its final rule determination on 5 December 2019. The AEMC decided to only introduce the DMIAM element, but not the DMIS element, of ENA's proposal. The purpose of the DMIAM is to provide funding for transmission businesses to expand and share their knowledge of innovative demand management projects that have the potential to reduce long term network costs – which would ultimately flow through to consumers in the form of lower electricity bills.[5]

The AEMC stated that it was not satisfied that the benefits of applying a DMIS to transmission networks would outweigh the additional costs to consumers. This decision was supported by all stakeholder submissions to the draft determination, except for Energy Networks Australia. If a DMIS were implemented, transmission businesses would receive revenue for undertaking non-network options that they would already have been required to adopt under the regulatory investment test for transmission (RIT-T). Although it is accepted that networks may face upfront, transitional costs to develop their ability to utilise non-network options, the AEMC considers that these mostly one-off costs can already be recognised and funded under the current regulatory framework.

[5] AEMC, Rule Determination, National Electricity Amendment (Demand management incentive scheme and innovation allowance for TNSPs) Rule 2019, 5 December 2019.

We are aiming to complete the design of the DMIAM, including the process and criteria for applying the innovation allowance, for implementation in the next round of revenue determinations. A Rule requirement is that transmission businesses will need to publish reports on the nature and results of their demand management projects – encouraging knowledge sharing of innovative non-network solutions.[6]

2.2 The rules' requirements

Under the NER:[7]

- The AER must develop a demand management innovation allowance mechanism for transmission network service providers consistent with the demand management innovation allowance objective.
- The objective of the demand management innovation allowance mechanism is to provide Transmission Network Service Providers with funding for research and development in demand management projects that have the potential to reduce long term network costs.
- In developing and applying the mechanism, the AER must take into account the following:
    - the mechanism should be applied in a manner that contributes to the achievement of the demand management innovation allowance objective
    - demand management projects should have the potential to manage ongoing changes in demand
    - demand management projects should be innovative and not be otherwise efficient and prudent non-network options that a transmission network service provider should have provided for in its revenue proposal
    - the level of the allowance should be reasonable considering the long term benefit to retail customers, should only provide funding that is not available from any other source, and may vary by transmission network service provider and over time
    - the demand management innovation allowance may fund demand management projects which occur over a longer period than a regulatory control period
    - Any demand management innovation allowance mechanism developed and applied by the AER must require transmission network service providers to publish reports on the nature and results of demand management projects that are the subject of the allowance.
- The AER must develop and publish the first DMIAM by 31 March 2021.

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6 NER, 6A.7.6 (d).

7 NER, 6A.7.6 and 11.118.2.

The AEMC also made a number of amendments to existing clauses in chapter 6A of the NER to accommodate the DMIAM throughout the revenue determination process.

2.3 The proposed DMIAM

Our proposed DMIAM consist of three elements:

- The allowance itself: This includes a fixed amount, applied equally to all TNSPs, plus an additional percentage of the TNSP's maximum allowed revenue (MAR). It is calculated as $200,000 + 0.1% of the relevant TNSP's MAR as defined in the Mechanism and Glossary. TNSPs will recover this amount from network users (generators, distribution network and load customers) throughout the regulatory control period. Should the allowance not be spent at the end of the regulatory control period, we will calculate a carryover amount to be recovered from TNSPs as a negative pass-through. Any overspend of the allowance will be borne by the TNSP.
- Project eligibility requirements: These set out the necessary criteria under which TNSPs may use the allowance to fund their R&D projects to deliver value for money to electricity consumers. The requirements are that projects be innovative and have the potential to reduce long-term network costs. Innovation, in this context, means that the project:
    - is based on new or original concepts. For clarity, we consider this could include new or original ways of building or developing capability and capacity to undertake, facilitate or utilise demand management; or
    - involves technology or a technique not previously implemented in the relevant market; or
    - is focussed on customers in a market segment that has not been exposed to the technology.
- Compliance reporting requirements: These assist us in assessing compliance with the Mechanism and allow industry and consumers to understand the research outcomes and knowledge gained from projects. To facilitate this, each TNSP must submit an annual report to us that sets out the amount of allowance claimed, along with specifics of each project funded by the allowance. The Mechanism does not prevent the TNSP from meeting its compliance reporting requirements through or with another party, where collaboration is a more effective and efficient way of meeting those requirements. Each project must have a project-specific report capable of being published separately. These reports must outline the outcomes and methodology applied for each project. We intend to publish these reports on our website, increasing the ease of access for stakeholders, including demand management service providers, TNSPs and electricity customers.

Our reasons for setting the above framework in the DMIAM are explained in the following chapters.

3 Design of the Mechanism

Clause 6A.7.6(c)(3) of the NER provides that the level of the allowance:

(a) should be reasonable, considering the long term benefit to retail customers;

(b) should only provide funding that is not available from any other source, including under a relevant revenue determination; and

(c) may vary by Transmission Network Service Provider and over time.

This chapter sets out our consideration of a number of issues regarding the design of the Mechanism, which includes the:

- Allowance cap for the DMIAM
- Components of the DMIAM allowance

3.1 Project allowance

In the Issues Paper, we considered that a lower level allowance (0.1 per cent of the MAR for the regulatory period) is likely to be consistent with the DMIAM Objective.[8] Our preliminary position on the mechanism allowance was that:

- A lower level allowance, with 0.1 per cent of MAR for each TNSP per regulatory period is appropriate.
- Ex post assessment is more appropriate given the size of the allowance.
- Pooling funding to jointly fund DM projects should be allowed.
- The DMIAM allowance should be spent on opex only.

Submissions

PIAC supported the lower level allowance as proposed by the AER.[9] PIAC also supported an opex-only DMIAM allowance.

TransGrid and ENA disagreed with this proposed approach and suggested an allowance of 0.2 per cent of MAR.[10] TransGrid submitted that this would proportionately incentivise TNSPs to undertake more consumer-benefiting projects. TransGrid also submitted that the proposed reporting and compliance obligations would, in effect, reduce the size of the allowance. ENA submitted that transmission networks need a larger allowance to become more innovative and flexible to manage network demand.

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[8] AER, Issues paper - Demand management innovation allowance mechanism - Electricity transmission network service providers, August 2020, pp. 16-20.

[9] PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2.

[10] TransGrid, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2; ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2.

TransGrid and ENA also disagreed that DMIAM project should be limited to opex. They submitted that minor capital expenditure should be allowed, because:[11]

- an opex only allowance might have unintended consequences for projects that involve relatively small amounts of capex. As an example, limiting the DMIAM to opex may constrain innovation in the areas of special protections schemes and network modelling, which third parties are not able to deliver or implement to collate impacts and learnings
- TNSPs need flexibility to use part of the DMIAM for minor capex where this is required for efficient project delivery.

TransGrid submitted that ex-post review of the DMIAM allowance would not give the necessary investment certainty to TNSPs, and therefore may deter businesses from investing in innovation. TransGrid proposed ex-ante approval of the allowance.[12]

PIAC did not express its preference on whether an ex-ante or an ex-post assessment is preferable, but was willing to examine this issue further. PIAC supported an opex only DMIAM allowance.[13]

All stakeholders supported:[14]

- the flexibility of being able to fund between TNSPs and across regulatory periods
- the return of any DMIAM underspend to consumers, and that any overspend should be borne by the TNSPs.

Our consideration

We consider that a DMIAM allowance of 0.1% of MAR is adequate for the DM projects, because:

- there is flexibility to pool funds into larger projects between TNSPs and across regulatory periods
- the DMIAM will be opex only
- the proposed amount of the allowance is similar to the distribution DMIAM.[15]

Further, Figure 2 below sets out the available distribution capacity for 2021 and 2025, from Australian Renewable Energy Mapping Infrastructure (AREMI) Network Opportunities Map. It appears that there is no significant network constraint in the next

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11 TransGrid, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2; ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2; 5-6.

12 TransGrid, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2.

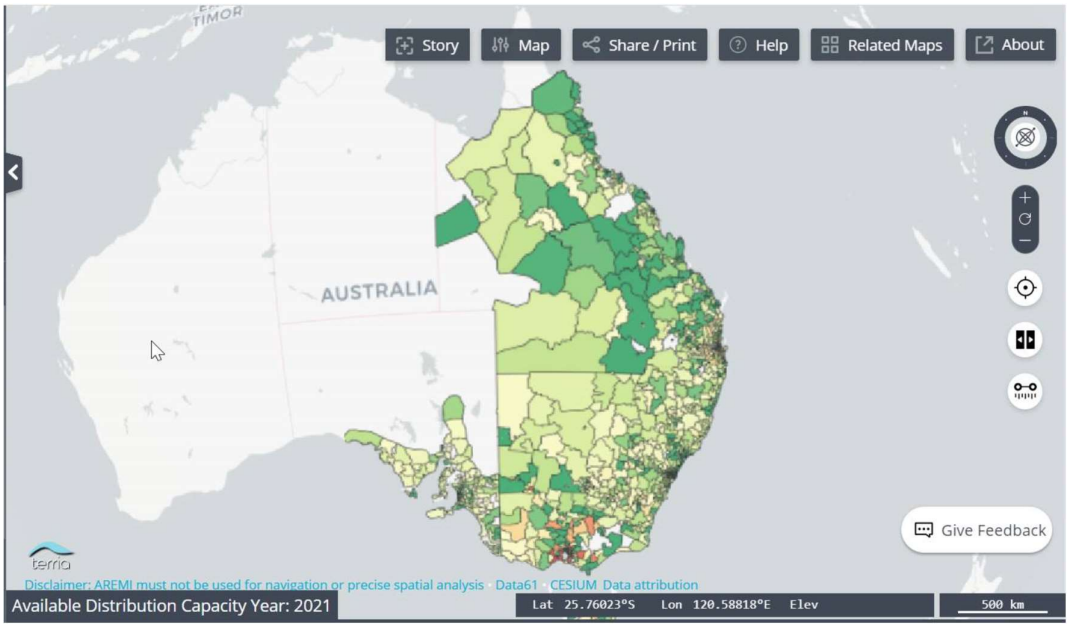
13 PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2.

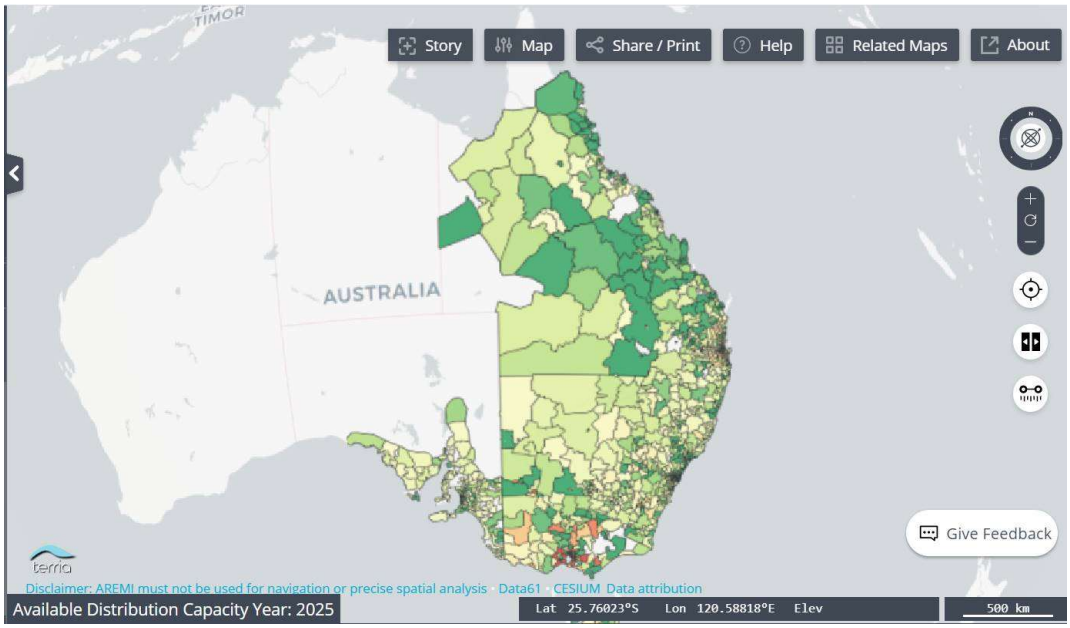
14 TransGrid, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2. ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 2. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 1.

15 The distribution DMIAM provides an allowance of $200K plus 0.075% of the MAR.

five years. Accordingly, we consider the DMIAM allowance should be moderate at this stage.

Figure 2 AREMI Network Opportunities Map for 2021 and 2025





Sources: https://nationalmap.gov.au/renewables/

We maintain our view that a DMIAM allowance of 0.1 per cent of the MAR is appropriate to fund the DM projects. However, as explained in section 3.2 below, we will include an additional allowance to fund an Independent Advisory Panel.

We remain of the view that an opex-only DMIAM is appropriate. This avoids the risk of customers incurring the ongoing costs of any physical assets purchased under the

scheme. Any physical assets that may be required for DM trial projects should be acquired through leasing arrangements with suppliers. This avoids the assets being rolled into the RAB.

In addition, extending the DMIAM to capex may result in consumers also funding the capital cost of failed attempts for the life of the new assets that do not deliver value to consumers. Small quantities of physical assets should be purchased as opex rather than capitalised in the RAB.

In relation to whether the approval of the expenditure should be based on ex-ante or ex-post review, we consider that an ex-ante arrangement would add additional administrative costs that are disproportionate to the level of funding under the mechanism. We also consider that the expenditure criteria set out in the scheme mean that the factors relevant to investment decisions on DMIAM projects will not be materially different from those for other investment decisions that TNSPs must make from time to time.

Draft decision

Our draft decision on the mechanism allowance are that:

- A lower level allowance of 0.1 per cent of MAR for each TNSP per regulatory period is appropriate. This is equivalent to $1.0 million for small size TNSPs and to $4.0 million for large TNSPs over a five-year regulatory period.
- Ex post assessment is more appropriate given the size of the allowance.
- Pooling funding to jointly fund DM projects should be allowed.
- The DMIAM allowance should be spent on opex only.

3.2 A separate allowance to fund the Independent Advisory Panel

In the issues paper, we considered that TNSPs should seek independent expert review, critique and endorsement of their proposed DM projects before implementation.

We also considered that the funding for such a panel should be part of the DMIAM allowance. Further, we noted that subject to the *Competition and Consumer Act 2010*, TNSPs might potentially set up joint expert panels to share the cost.

Submissions

PIAC submitted that the cost of the independent panel should not be funded through the DMIAM allowance. Instead, it should be treated as cost to business and funded through TNSPs' revenue allowances.[16]

[16] PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

ENA and TransGrid disagreed with the requirement for the independent panel, on the basis that it would add to the cost of the scheme and because this will add to the may not be necessary.[17] Hence, they did not make further submissions on how the panel should be funded.

Our consideration

We recognise that there are some potential benefits of funding the panel through the TNSPs' ex-ante revenue allowance as a part of the revenue determination process; including the potential to benchmark the relative efficiency of TNSPs. However, we have the following concerns:

- Such separate ex-ante forecasts for panel costs will only represent a very small amount relative to a business' total opex forecast. The impact of such expenditure on the measurement of a TNSP's efficiency is limited.
- Panel costs could vary substantially between regulatory periods, depending on the duration of a project or projects.
- We encourage TNSPs to have joint panels to reduce costs. Funding the panel through the TNSPs' ex-ante revenue allowance would make it difficult for us to measure relative efficiency in this area.
- This ex-ante approach would reduce the level of transparency on panel costs in TNSPs' financial reports, because those costs would be a very small proportion of each TNSP's total opex.

Taking these factors into account, our preferred approach would be to fund the panel through the DMIAM allowance, in addition to the actual DM project funding rather than reducing the size of the allowance.

However, we consider that TNSPs should report actual expenditures on the panels to increase transparency. Any unspent amount must be returned to consumers. We propose to include $200,000 to fund the panel for each TNSP. This is based on an estimate of the cost for two experts for 10 working days per year.

This provides an equitable fund for all TNSPs to cover the running cost for the panel. In particular where TNSPs pool the funding for the panel.

TNSPs will be required to report on how this expenditure is used. Any under-spend will be returned to customers. We consider that this approach will increase transparency.

Draft decision

Our draft decision on how to fund the Panel is that:

- We will include an additional $200,000 in the available allowance

[17] TransGrid, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2; ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 10.

- TNSPs will be required to report on how this expenditure is used
- Any under-spend will be returned to customers.

3.3 Total DMIAM allowance cap

Based on the discussion above, we consider the there are two parts to the allowance under the Mechanism:

- A fixed base allowance level of $200,000 to fund the independent advisory panel (in 2021 regulatory year-end dollars), escalated annually by the CPI; and
- A project allowance of 0.1% of the TNSP's MAR, as set out in the TNSP's revenue determination.

Draft decision

The draft Mechanism specifies that our revenue determination will set out how the Mechanism will apply to a TNSP in the relevant regulatory control period. We will set the allowance cap for a TNSP by applying the formula in equation 1, where MAR is the TNSP's maximum allowed revenue for that regulatory period, as set out in that TNSP's revenue determination at the time that revenue determination was first made.

Equation 1: Allowance cap for a regulatory control period

$$Allowance\ cap = \$200,000 + 0.1\% \times MAR$$

Table 1 below sets out the annual revenue and indicative DMIAM allowance per regulatory control period for each TNSP, using the TNSPs' historical revenue as examples:

Table 1 TNSPs' average actual revenue for 2006-2019 and proposed DMIAM allowance per regulatory control period ($m, 2020-21)

	Powerlink	TransGrid	AusNet (T)	ElectraNet	TasNetworks (T)
Actual revenue	778	636	547	276	187
DMIAM allowance	4.1	3.4	2.9	1.6	1.1

Source: AER analysis.

3.4 An uplift payment for non-network solutions

In the issues paper, we sought stakeholders' comment on providing a 50 percent incentive payment, as an uplift to actual expenditure, to encourage TNSPs to apply non-network solutions.

Submissions

TransGrid and ENA supported a 50 percent uplift above the cap for non-network solutions.[18]

PIAC disagreed with including an incentive payment uplift as part of the DMIAM, noting the AEMC's final determination statement that it would not be in consumers' interest to introduce a DMIS (which may have provided a similar uplift).[19]

Our consideration

In the issues paper, we noted that TNSPs have been reluctant to adopt non-network solutions. Similar to our DMIS scheme for distributors, we considered some level of incentive may be necessary to encourage TNSPs to apply non-network solutions.

While we noted the AEMC's final determination statement that it would not be in consumers' interest to introduce an incentive scheme for demand management, we sought stakeholders' opinion on whether an uplift to encourage non-network solutions was prudent.

In its submission to the draft determination, Energy Consumers Australia (ECA) submitted that further incentive payments are not consistent with the intent of the rules.[20]

Having regard to the lack of consumer stakeholder support, we consider that there is no need for an uplift payment, and that none should be provided.

We note that any uplift within the overall cap would reduce the "usable" amount of the allowance. For example, if a TNSP has available to it an allowance of $5 million and faces an uplift payment of 50 percent of the original cost, it has no incentive to spend more than $3.33 million. We do not consider an uplift in addition to the overall cap is appropriate, because this would increase the size of the allowance (see discussion above).

Draft decision

We consider that no uplift on actual expenditure should be provided.

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[18] TransGrid, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2; ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 3; 7.

[19] PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 2.

[20] Energy Consumers Australia, Response to DMIS and DMIA for TNSPs Rule Change Draft Determination Rule Determination, 28 October 2019, p. 4.

4 Identifying eligible projects

Clause 6A.7.6(c)(2) of the NER sets out the type of projects to which the DMIAM is to apply ('eligible projects'). Specifically, the projects should:

(a) have the potential to manage ongoing changes in demand; and

(b) be innovative and not be otherwise efficient and prudent non-network options that a Transmission Network Service Provider should have provided for in its Revenue Proposal.

This chapter sets out our consideration of the proposed project criteria that a project must meet to be eligible and the need for independent expert review of the proposed DMIAM projects.

4.1 Project criteria

In the Issues Paper, we proposed to adopt similar project criteria to those specified in the current distribution DMIAM, which was published in 2017, with some variations which are specific for transmission networks. The updated distribution DMIAM only commenced in July 2019. We are currently considering these reports and will incorporate any learnings from this process in the final DMIAM.

Submissions

Table 2 summarises submissions in response to what we proposed in the Issues Paper and our opinion regarding these submissions.

PIAC submitted that the interpretation of the demand management criteria should be broader, instead of referring to peak demand only.[21] ENA submitted that we should adopt a broad demand management definition, using the Distribution DMIAM definition.[22]

All stakeholders were generally supportive of the project criteria and sub-criteria.[23]

PIAC noted the onus must be on TNSPs to demonstrate how the proposals meet “new and original” criterion. [24]

PIAC agreed that TNSPs must not be able to double-dip for funding, such as through a normal revenue determination or as a result of incentive schemes or policies. However,

[21] PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2.

[22] ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3; 9.

[23] TransGrid, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2. ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 8-9. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

[24] PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

this must not necessarily prevent TNSPs from co-funding with other research and innovation funding sources such as from ARENA or universities.[25]

Our consideration

We agree with the stakeholders and have chosen to define demand management as "modifying the drivers of network demand". We consider the definition of demand management should be sufficiently broad so that it does not limit innovation under the Mechanism.

We also agree with PIAC that TNSPs should provide evidence to demonstrate that the sub criteria are met for each demand management project and program.

We have also added an additional criteria that must be satisfied in order for a project to be an eligible project - namely that the TNSP must give a prior public commitment to share the results, learnings and insights of the project. This is discussed further in section 5.4 below.

Draft decision

We have amended the project criteria and sub-criteria accordingly, as per Table 2 below.

Table 2: Project criteria for eligibility under the Mechanism

Project criterion	Rationale for criterion	Consideration of stakeholder views
Be a demand management project or program	The Allowance Objective requires that projects funded under the Mechanism relate to demand management. In the transmission network context, we have interpreted demand management as referring to modifying the drivers of network peak demand usage patterns in a way that will deliver long term benefits to consumers.	Stakeholders submitted that the interpretation of the demand management criteria should be broader, instead of referring to peak demand only, and should adopt a broad demand management definition, using Distribution DMIAM definition. We agree with the stakeholders and have chosen to define demand management as "modifying the drivers of network demand". We consider the definition of demand management should be sufficiently broad so that it does not limit innovation under the Mechanism.
Be innovative, in that the project or program is: • based on new or original concepts; • involving technology or techniques that	The Allowance Objective requires that projects which receive funding under the Mechanism should be innovative. The goal of this definition is to fund projects that materially add to our understanding of demand management	Stakeholders generally supported the sub criteria.[26] PIAC noted the onus must be on TNSPs to demonstrate how the proposals meet the “new" and "original” criteria. We agree with PIAC that TNSPs should provide evidence to demonstrate the sub

[25] PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

[26] ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 8-9. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

differ from those previously implemented or used in the relevant market; or • focused on customers in a market segment that significantly differs, from those previously targeted by implementation of the relevant technology, in relevant geographic or demographic characteristics that are likely to affect demand.	and its potential for technical and/or commercial viability in supporting the operation of the transmission network. We consider the definition in the Mechanism strikes the right balance. It is not overly prescriptive, but directs TNSPs to use the allowance in ways that will build market/industry understanding of demand management.	criteria are met for each demand management project and program.
Have the potential, if proved viable, to reduce long term network costs.	The Allowance Objective requires that projects funded under the Mechanism have the potential to reduce long-term network costs for consumers. In the context of innovation, we see reducing costs in the context of that project's overall ability to contribute to developing demand management and industry knowledge, rather than a strict adherence to project benefits. This allows TNSPs to spend the allowance experimentally, while still directing them to implement potentially efficient solutions. Exploring this potential is vital to building market/industry understanding and commercialising solutions.	Stakeholders supported the definition.[27]
The costs of a project or program are not eligible for recovery under the Mechanism if those costs are: • recoverable under any other jurisdictional incentive scheme, • recoverable under any state or Australian Government scheme, or	The Mechanism is intended to provide funding for innovative solutions that would not otherwise be available. This aims to fund innovation, rather than allowing TNSPs to recover extra money for simply undertaking actions that are otherwise prudent and should be included in their revenue allowances. This clause aims to prevent 'double-dipping' of R&D revenue. This is consistent with 6A.7.6 (c)(3) of the NER, which states that the level of the allowance should provide funding that is not available from any other	Stakeholders generally supported the definition. [28] PIAC submitted this must not necessarily prevent TNSPs from co-funding with other research and innovation funding sources such as from ARENA or universities. [29] The Mechanism encourages jointly-funded innovative research projects, which are valuable for spreading risks and costs. The intent of this requirement was to avoid double-dipping (that is, to ensure that funding obtained from other sources is not also recovered under the Mechanism). We have included such a limitation in clause

[27] ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 8-9. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

[28] ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 8-9. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

[29] PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

• included in forecast capital expenditure or operating expenditure approved in the revenue determination.	source, including a revenue determination.	2.2.1(2) of the Mechanism to reflect this intention without restricting jointly-funded R&D projects.
DM projects that also improve wholesale market outcomes should be considered	Transmission networks have considerable interactions with the wholesale market. A DM project that would improve wholesale market outcomes could be eligible for the allowance if the applicant can demonstrate that the project would lead to a reduction in long term network costs.	Stakeholders supported the definition.[30]
Prior public commitment to share e the results, learnings and insights of the DM project.	Given that these R&D works will be funded by consumers, rather than the shareholders of the businesses, we consider that the learnings and insights gained from implementing these projects should be shared upon request.	We proposed a numbers of possible measures to encourage NSPs to share what they have learned as a result of undertaking the DMIAM projects. ENA disagreed with these proposals because they are not requirements under the distribution DMIAM.[31]

Source: AER analysis.

4.2 Independent advisory panel

In the issues paper, we considered that TNSPs should be required to seek independent expert review, critique and endorsement of their proposed DM projects before implementation.[32] This is because, given the innovative nature of the project funded by the scheme, the outcome of the expenditures are not guaranteed. Therefore, independent scrutiny will improve the value for money of these projects and improve on the choices amongst competing alternatives.

Submissions

ENA and TransGrid disagreed with an independent panel because it will add to the cost and may not be necessary.[33] They submitted that, if an ex-ante approach is adopted then the AER would undertake the necessary reviews and that this would remove the need for a panel.

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30 ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 8-9. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3

31 ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 11. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

32 AER, Issues paper - Demand management innovation allowance mechanism - Electricity transmission network service providers, August 2020, pp. 16-20.

33 TransGrid, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 1-2; ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 10.

PIAC supported an independent panel and submitted that it should complement, not replace, the AER's own assessment. PIAC also submitted that the review must incorporate consumer or community perspectives, preferences and interests.[34]

Our consideration

A suitably established independent panel will provide value for money because it can guide TNSPs to invest the funding more effectively and to reflect customers' preferences amongst various choices.

An ex-post review by the AER will not be able to review what other alternate options might have been available.

While recognising the benefits of such panels, we consider it appropriate to encourage TNSPs to establish and use them, instead of mandating their use. This is because making the panels compulsory could result in TNSPs being less inclined to undertake non-network solutions, contrary to the intent of the DMIAM.

The independent members of a panel should have relevant knowledge and experience in electricity markets, networks and demand management. The independent panel should include customer/community representatives.

TNSPs might potentially set up joint independent panels to share the cost. If there is a possibility that the way in which the joint panel will be used might otherwise give rise to issues under the Competition and Consumer Act 2010 (the CCA), the CCA includes a mechanism for seeking authorisation, of proposed conduct if the conduct is not likely to have an anti-competitive effect, or if the likely public benefits of the conduct outweigh any likely public detriment.

We encourage TNSPs to jointly set up project panels to undertake evaluations on potential non-network solutions relating to demand management, which would deliver benefits to the consumers. These benefits include but are not limited to:

- Efficiency gain as a reduction of cost. A joint panel for multiple TNSPs, instead of individual panel for each individual TNSP, will reduce the setting up and operating cost for the panel. This would lead to efficiency gain and value for money for the consumers.
- Less duplication of DM projects and programs. A joint panel would make it easier to identify duplication of proposed projects among the TNSPs and allow TNSPs to try on different or different types DM projects.
- Improving sharing of leaning. TNSPs using joint panel would normally share the project specific information including project aim, nature, scope and desired outcomes, etc. This will also help the sharing of learning among TNSPs of the outcomes and lessons after the DM projects are delivered.

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[34] ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 10. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

Draft decision

We consider there would benefit in a TNSP setting up an independent panel. TNSPs are encouraged to set up joint independent panel to share the cost and deliver benefits to the consumers. The DMIAM will encourage, but will not mandate, an endorsement of each project from an independent advisory panel.

However, we will take into consideration whether a particular demand management project has received endorsement from an independent project panel, when reviewing TNSPs' annual compliance reports.

The independent panel should include experts who have relevant knowledge and experience in electricity markets, networks and demand management. The independent panel should also include customer/community representatives.

The independent panel should be funded within the DMIAM allowance, as discussed in section 3.2 above.

5 Assessment and compliance reporting

This chapter sets out our consideration on compliance reporting and the transfer of learning gained through the Scheme.

Under the NER, any distribution DMIAM developed and applied by the AER must require DNSPs to publish reports on the nature and results of demand management projects that are the subject of the allowance.[35] The same requirement applies for the transmission DMIAM.[36]

To give effect to this for the distribution DMIAM, the AER requires the distribution businesses to submit compliance reports to it in a form that is capable of being published by the AER – with the intention of then publishing the reports on its website to 'increase the usefulness and accessibility of each project report'.[37] The AEMC expects that the AER would adopt a similar approach for transmission networks.[38]

We concur with the AEMC's view. Accordingly, our proposed reporting framework for transmission DMIAM has been adopted from the distribution DMIAM because we consider these DMIAM have a similar scope and framework.

5.1 Compliance reporting requirements

In the Issues Paper, we sought stakeholders' comments on

- How might we best give effect to or enhance the information and reporting requirements discussed in section 6.1 of the Issues Paper
- What details of the learnings gained from eligible DM projects should be included in the public report.

Submissions

ENA supported a streamlined project reporting and approval process, noting the level of required reporting details should also be streamlined and focus on demonstrating that the project activity is in line with the nature, scope, aims and expectations of the Scheme, with project scope, aims and key benefits to be shared. ENA also supported the project elements outlined in table 5 of the issues paper for public reporting. [39]

Our consideration

Clause 2.4 of the Mechanism specifies that each regulatory year, a TNSP will submit a compliance report to us. This report serves two purposes: to allow us to assess

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35 6.6.3A, NER.

36 6A.7.6(d) NER

37 AER, Demand management innovation allowance mechanism: Explanatory statement, December 2017, p. 26.

38 AEMC, Rule Determination, National Electricity Amendment (Demand management incentive scheme and innovation allowance for TNSPs) Rule 2019, 5 December 2019, Footnote 119, p. 30.

39 ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 10-11.

compliance with the Mechanism's requirements; as well as to assist in socialising the knowledge gained from the research projects funded under the Mechanism. By using the report in this way, we consider that the burden on TNSPs will be reasonable.

The overall public report should also include, for each project or program, evidence of the endorsement that the TNSP is required to obtain, before implementation of the project or program, under clause 2.2.1(1) of the Mechanism (see section 4.2 above).

Draft decision

We have set out the compliance reporting requirement in sections 5.1.1 and 5.1.2 below and 2.3 of the draft Mechanism.

5.1.1 The overall report

Clause 2.3(3) of the Mechanism sets out the requirements for compliance reporting. Project or program specific reports for each project claimed under the Mechanism are required. The report for each project must be capable of being published separately such that the information within the report is self-contained. The Compliance reporting requirements also require that the TNSPs submit an overall report containing:

- The total amount of the allowance spent;
- A list and description of each eligible project on which the allowance was spent;
- Evidence of any independent panel endorsement that the proposed projects or programs meet the criteria set out in clause 2.2.1(1)(a) to (c).
- A summarised explanation of each demand management project which the TNSP funded under the Mechanism, demonstrating and justifying the project's compliance against the project criteria.
- Where a demand management projector program has extended across more than one regulatory year of the regulatory control period, details of the actual expenditure on each such project or program in each **regulatory year** of the **regulatory control period** to date.
- The name and qualifications of each member of an independent panel,
- The amount of the allowance spent on each independent panel, where applicable.
- A statutory declaration signed by an officer of the TNSP delegated by the chief executive officer, certifying that the costs being claimed for each demand management project:
    - have been incurred as reported;
    - are not recoverable under any other jurisdictional incentive scheme;
    - are not be recoverable under any state or Australian Government scheme; and
    - are not included in forecast capital expenditure or operating expenditure approved in our revenue determination for the regulatory control period

under which the Mechanism applies, or under any other incentive scheme in that revenue determination.

These requirements allow us to assess individual project eligibility, as well as the overall spending pattern of the allowance. This information will assist us in determining how much of the allowance has been spent, what projects it has been spent on, and how TNSPs justify that expense with regard to the Allowance Objective. The expenditure information is required to be provided on a number of levels. The expenditure information must be given for each project on an annual basis. A breakdown of the cumulative expenditure on the project should also form part of the report. This information, considered together, will allow us to track the amount of the allowance TNSPs are spending. We can then quickly gain a broad outline of the projects a TNSP is undertaking.

The statutory declaration aims to give effect to clause 6A.7.6(c)(3)(ii) of the NER, which aims to prevent TNSPs from 'double dipping' and receiving payment for the project costs twice. These requirements also aim to reserve the allowance for projects that are innovative, and not simply otherwise efficient projects for which the TNSP should have made provision in the expenditure forecasts in their revenue proposal.

In addition, to the extent that the TNSPs' compliance reporting requirements can be met more effectively and economically with or through other parties, TNSPs can do so through another party. This will prevent the Mechanism from restricting TNSPs from creating their compliance reports with another party. This is intended to provide further clarification that TNSPs can cross-collaborate on projects, which is a goal that various stakeholders have supported.

When reviewing TNSPs' annual compliance reports, we will take into consideration whether a particular demand management project has received endorsement from an independent project panel.

5.1.2 Project specific reports

The overall report must include project specific reports. The subordinate clauses to subclause 2.3(3)(d) of the Mechanism set out the requirements for these project specific reports.

TNSPs will provide us with an overview of the project, setting out:

- The project's nature and scope.
- The project's aims and expectations.
- How the project meets the project criteria.
- The TNSP's implementation approach for the project.
- The TNSP's outcome measurement and evaluation approach for the project.
- The project costs incurred that year, as well as to date. This should also include costs the TNSP expects to incur over the project duration.

- For ongoing eligible projects, a summary of project activity to date, an update of any material changes to the project in that regulatory year, and reporting of collected results (where available).
- For eligible projects completed that regulatory year, the quantitative results and an analysis of the results. The report should also describe how the results of the eligible project will inform future demand management projects. We have done this by requiring TNSPs to report on what demand management projects or techniques, and/or under what circumstances such projects or techniques, are unlikely to form technically or economically viable non-network options.
- Any other information that an informed observer would require to understand, evaluate and potentially reproduce the approach used. This catchall requirement cements the Mechanism's focus on third party consideration.

As well as helping us assess individual project compliance, these reporting requirements should provide specific benefits by increasing TNSPs' and other market participants' understanding of the potential applications for demand management. We have chosen to require individual reports for each project to help standardise the quality and presentation of these reports. These requirements should shift the focus of reporting towards the socialisation of knowledge gained from projects to better serve the Allowance Objective.

5.2 Treatment of confidential information

Information provided under the compliance reporting requirements may include confidential third party information.

If a TNSP wishes to redact such information from their report, they must provide two copies of the report to us, one un-redacted and one suitable for publication. The un-redacted version is required for us to assess compliance and the merits of the confidentiality claim. A statement setting out the reasoning for the confidentiality claim must accompany the report. TNSPs must provide versions of the overall report and the project specific reports that are suitable for both compliance assessment and publication.

The TNSP cannot fully redact the project's aim, methods, implementation, results, analysis and implications. These must be available via the report in a form that provides a reasonable level of information to the industry to further develop and innovate.

These procedures will encourage TNSPs to be candid where they can be in reports, while protecting the information of third parties where appropriate, so that stakeholders can easily access information regarding projects funded under the Mechanism.

5.3 AER use of compliance report

In the first instance, the information provided in a TNSP's annual overall report will form the basis, together with associated individual project or program reports, for our assessment of the TNSP's compliance with the project criteria, and its entitlement to

recover expenditure under the Mechanism. Under both the current DMIA and the new Mechanism, we will conduct ex-post reviews of projects to determine their compliance with the project criteria. These compliance-based uses for the report are vital to the ongoing integrity of the Mechanism.

Beyond these compliance uses, this information will assist us in making informed improvements in potential revision/s of the Mechanism.

Further, we will compile a report comparing the performance of all TNSPs, both in terms of compliance and efficacy. We consider that this report will serve as a helpful resource for the market to understand the development of innovative demand management practices. It will also allow the market to understand which TNSPs are performing well and are active in this space. Over the long term, we hope that this will encourage a culture of innovation in the market. We will also use this report to gain an understanding of the overall direction of demand management in electricity networks.

Finally, we will publish project specific reports separately on our website or on an online portal. These publications will allow detailed technical information to be easily accessed by businesses and other interested parties so they can fully understand the testing procedure for a given project.

5.4 Transferrable learning outcomes

We sought stakeholders' comments regarding a numbers of possible measures to encourage NSPs to share what they have learned as a result of undertaking the DMIAM projects. The comments included that:

- the AER could publish the names of those TNSPs who do not share what has been learnt as a result of projects funded by the DMIAM;
- the AER could approve DMIAM funding for only those DM projects where learning information has been shared with other TNSPs and withhold funding approval if information is not shared;
- the AER could obtain detailed results from the TNSP for publication.

We also sought stakeholder comment on the appropriate time period for which that information should remain available to other TNSPs.

Submissions

ENA disagreed with these proposals because they are not requirements under the distribution DMIAM. ENA submitted that TNSPs can seek recognition for innovative projects under ENA's annual rewards.[40]

[40] ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 11. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

Our consideration

We consider that TNSPs should share their knowledge and understanding of innovative demand management projects that have the potential to reduce long term network costs, and therefore prices for consumers. Given that these R&D works will be funded by consumers, rather than the shareholders of the business, we consider that the learnings and insights gained from implementing these projects should be shared with other TNSPs and the public.

Draft decision

Our view is that the learnings and insights gained from implementing these projects should be shared with other TNSPs, and the public, upon request. To this end, the draft DMIAM includes:

- an additional criteria that must be satisfied in order for a project to be an eligible project - namely that the TNSP must give a prior public commitment to share the results, learnings and insights of the project.
- a mechanism to enable the recovery of funding from TNSPs if that commitment is not honoured. This is necessary because a TNSP's failure to comply with a sharing request may occur after the AER has approved the DMIAM allowance for that project in a previous regulatory year.

  The mechanism will be applicable to a project until two years after the project's completion, in order to allow additional time for other interest parties to request the final results, learnings and insights of the trial.

In certain circumstances (for example, where a TNSP has not commenced any eligible projects in a year in which it fails to comply with a sharing request) the mechanism may result in the amount recoverable by the TNSP for that year being negative. This removes any incentive for the TNSP to scale back its future deployment of DMIAM projects in order to avoid needing to share information about projects that have already commenced.

6 Application of carryover

Clause 2.5 of the Mechanism describes the process for passing any underspend of the allowance. Under the Mechanism, TNSPs will bear any overspends of the allowance. So that there is no double-dipping in respect of jointly funded projects, the final version of the Mechanism includes a provision for calculating underspends. It states that we will not treat as a cost to the consumer, any amount provided to the TNSP by another TNSP, or by a third party for the purposes of implementing a jointly funded project.

The carryover process aims to make TNSPs neutral towards the expenditure profile they take under the Mechanism over the regulatory control period. It entails a revenue adjustment, which is calculated so that the TNSP is indifferent in net present value (NPV) terms to the expenditure profile it selects over the regulatory control period. This removes any incentive for the TNSP to defer or advance expenditure.

The formula we have adopted for calculating the carryover is the same as in the current distribution DMIAM. We have also updated this formula to account for the annual updating of the allowed rate of return. This formula involves calculating the total allowance spent in a regulatory control period in the last year of that period, and returning any underspend of the allowance to consumers via a negative pass through in the second year of the next regulatory control period. This formula, as presented in equation 2, aims to capture the time value of money in this calculation.

Equation 2: Carryover amount, C for subsequent regulatory control period

$$C = -\left[\sum_{t=1}^{N} \frac{R_t - A_t}{(1+r_t)^t}\right] \times \prod_{t=1}^{N+2} (1+r_t)^t$$

Where:

- *C* is the total carry over amount.
- *t* is a regulatory year, which can take the value of integers between 1 and N+2, where N is the number of regulatory years in the TNSP's regulatory control period for which the carryover is being calculated.
- R_t is the ex-ante allowance under the Mechanism for regulatory year, *t*.
- A_t is the expenditure approved ex-post under the Mechanism for regulatory year, *t*.
- r_t is the allowed rate of return in regulatory year, t. In equation 1, t can take the value of 1 to N+2, with 1 referring to the first regulatory year of the regulatory control period in which the expenditure was incurred, and N+2 referring to the second regulatory year of the subsequent regulatory control period.

In equation 2, $R_t - A_t$ represents the difference between the allowance approved and the allowance spent (the underspend) in regulatory year *t*. Dividing this by $(1+r_t)^t$ adjusts this underspend for the time value of money, using the TNSP's allowed rate of

return for regulatory year *t*. The sigma notation prompts us to do this for each of the five years of a regulatory control period, and to sum these amounts.

This sum total, shown equation 3, is then presented as a negative amount to be carried over. Since we provide a TNSP with its allowance ex-ante, we must subtract its allowance underspends from its total revenue as a negative pass through.

Equation 3: Part 1 of the carryover amount calculation

$$-\left[\sum_{t=1}^{N} \frac{R_t - A_t}{(1+r_t)^t}\right]$$

The ultimate outcome of this step is an expression of the differential between the amount spent and the approved allowance. This is presented as a present value at $t = 0$, using the TNSP's allowed rate of return as the discount factor.

Table 3 and table 4 provide two worked examples of how we would apply part 1 of the carryover amount calculation, shown in equation 3. In these examples, we have:

- For simplicity, assumed a constant annual allowance of $1.4 million in nominal terms, which could reflect an allowance for a large TNSP under the Mechanism;
- Assumed an allowed rate of return of 6.5% for each year of the regulatory control period. We consider this could reflect a nominal allowed rate of return that a TNSP might receive. Since the cash flows in this example are in nominal terms, we are applying a nominal rate of return as the discount factor. If cash flows were in real terms, a TNSP would apply a real rate of return as a discount factor; and
- Rounded figures to increase the readability of the table.

Table 3 shows the first worked example. In year one of this worked example, the TNSP underspends the allowance by $400,000. The present value of these costs in year one is $376,000. As there is no further under or overspending of the allowance, the total spend differential is $376,000.

Table 3: Example 1 —First year underspend ($'000)

Year	1	2	3	4	5	Total
Nominal allowance approved (Rt)	1,400	1,400	1,400	1,400	1,400	7,000
Nominal allowance Spent (At)	1,000	1,400	1,400	1,400	1,400	6,000
Nominal Differential	400	$0	$0	$0	$0	400
PV of underspend (t=0 end)	376	0	0	0	0	376
Cumulative NPV of underspend (t=0 end)	376	376	376	376	376	376

Table 4 shows a second worked example. In this example, the TNSP again underspends the allowance in year one, but also overspends in year three. Both times the TNSP deviates from the allowance by $400,000. However, as we adjust for the time value of money, the earlier underspend had a higher present value. Given this,

the TNSP would have still underspent overall. We would therefore subtract this underspend from the TNSP's total revenue as a negative pass through.

Table 4: Example 2 — First year underspend, third year overspend ($'000)

Year	1	2	3	4	5	Total
Nominal allowance approved (Rt)	1,400	1,400	1,400	1,400	1,400	7,000
Nominal allowance Spent (At)	1,000	1,400	1,800	1,400	1,400	7,000
Nominal Differential	400	0	- 400	0	0	0
PV of over/ underspend (t=0 end)	376	0	- 331	0	0	45
Cumulative NPV of over/underspend (t=0 end)	376	376	45	45	45	45

The total cumulative underspends in table 3 and table 4 represent the value inside the bracket of equation 3. To calculate the total carryover amount, we would also need to apply the second part of equation 2, as replicated in equation 4 below.

Equation 4: Part 2 of the carryover amount calculation

$$\times \prod_{t=1}^{N+2}(1+r_t)^t$$

The step in equation 4 entails taking the overall adjusted underspend (which is a present value at $t = 0$), and converting it to present value as $t = N + 2$. This reflects the year the underspend is passed through — which is the second year of the subsequent regulatory control period. This means the carryover reflects the true value of the underspent money to the TNSP, as we have now accounted for the entire time that the underspend has been retained.

The aim of this step is to pass through an amount that reflects the benefits of underspending the allowance in the previous regulatory control period. We consider this is an equitable means of reflecting the value gained from underspending the allowance in each year of the regulatory control period.

The calculation below shows the complete application of equation 2 to the previous example 1. We have used the same assumptions as previously, but have also added the assumption that the allowed rate of return for the first two years of the second regulatory control period is 7.0%. We have taken the figure, -376,000 from the calculation in table 3.

$$C = -\left[\sum_{t=1}^{N+2}\frac{R_t - A_t}{(1+r_t)^t}\right] \times \prod_{t=1}^{N+2}(1+r_t)^t$$

$$C = -376{,}000 \times [1.065 \times 1.065 \times 1.065 \times 1.065 \times 1.065 \times 1.07 \times 1.07]$$

$$C = -376{,}000 \times [(1.065)^5(1.07)^2]$$

$$C = -589{,}798$$

Using the same assumptions, we apply equation 2 to the previous example 2. In this application, we have taken the figure, -45,000 from the calculation in table 4.

$$C = -45{,}000 \times [1.065 \times 1.065 \times 1.065 \times 1.065 \times 1.065 \times 1.07 \times 1.07]$$

$$C = -45{,}000 \times [(1.065)^5(1.07)^2]$$

$$C = -70{,}588$$

Under each of these applications of equation 2, the TNSP returns the full value of its underspend to consumers and the NPV of the total underspend becomes zero. This is because we have specifically designed equation 2 to be revenue-neutral.

Table 5 shows a third worked example. In this example, the TNSP has underspent its first year allowance, before overspending its third year allowance by $700,000. This results in an overspend of the total allowance allotted in the regulatory control period by $300,000 in nominal terms and $196,000 when adjusted for the time value of money.

Table 5: Example 3 — Allowance overspend ($'000)

Year	1	2	3	4	5	Total
Nominal allowance approved (Rt)	1,400	1,400	1,400	1,400	1,400	7,000
Nominal allowance Spent (At)	1,000	1,400	2,100	1,400	1,400	7,300
Nominal Differential	400	0	- 700	0	0	- 300
PV of over/ underspend (t=0 end)	376	0	- 571	0	0	- 196
Cumulative NPV of over/underspend (t=0 end)	376	376	- 196	- 196	- 196	- 196

Unlike in the first two examples, this overspend will not result in a pass through to customers. This is because, under the Mechanism, TNSPs have to return allowance underspends to consumers, but have to bear the cost of overspends.

A Summary of submissions and our response on the issues

A.1 Level of the allowance for the DMIAM

Proposed position	Submissions	Our response
A level of DMIAM allowance of 0.1% of the MAR for the regulatory period.	TransGrid disagreed. It proposed an allowance of 0.2% of MAR as this would proportionately incentivise TNSPs to undertake more consumer-benefiting projects. TransGrid argued that the reporting and compliance obligations will further erode the allowance. PIAC supported 0.1% of DMIAM allowance as AER's proposal. ENA proposed 0.2% of the MAR and submitted that transmission networks need to become more innovative and flexible to manage network demand.	We consider that a DMIAM allowance of 0.1% of MAR is adequate for the DM projects, because: • there will be flexibility to pool funds into larger projects among TNSPs and across the regulatory period • the DMIAM will be opex only • the proposed amount of the allowance is similar to the distribution DMIAM, which provides an allowance of $200K plus 0.075% of the MAR. We maintain our view that a DMIAM allowance of 0.1 per cent of the MAR is appropriate to fund the DM projects, with a separate allowance to fund the Independent project panel.
50% uplift to non-network solutions within or above the allowance cap	TransGrid supported a 50% uplift to non-network solutions above the cap. PIAC disagreed with the incentive payment uplift, noting AEMC final determination statement that it would not be in consumers' interest to introduce a DMIS which would have provided a similar uplift. ENA supported 50% uplift.	AEMC's final determination stated that it would not be in consumers' interest to introduce an incentive scheme for demand management. Providing an uplift would either mean that fewer projects can be funded, or that the size of the allowance would need to increase beyond what we consider appropriate

How to fund the independent project panel	PIAC considered the cost of independent panel should not be funded through the DMIAM allowance. Instead, it should be treated as cost to business and funded through TNSPs' revenue allowance. PIAC also submitted that this should complement but not replace the AER's own assessment of the projects as an expert regulator.	See above - we will include an additional $200,000 to fund the panel. TNSPs will be required to report on how this expenditure is used. Any under-spend will be returned to customers. This approach will increase transparency. Funding the panel under normal opex will reduce the level of transparency, because the level of funding needed for the panel is very small compared to the TNSP's overall opex.
Flexibility to pool funds into larger projects	TransGrid supported flexibility to pool funds into larger projects and across regulatory periods. PIAC supported the flexibility of pooling fund among TNSPs and across regulatory period. ENA supported collaboration with other TNSPs or DNSPs on larger projects or across regulatory periods.	Maintain the flexibility to pool funds into larger projects.
Opex only and ex post allowance	TransGrid was concerned with opex only allowance in that this might have unintended consequences for projects that involve relatively small amounts of capex. TransGrid submitted the need for flexibility for a TNSP to use part of the DMIA for minor capex where this is required for efficient project delivery. TransGrid submitted that ex-post review of DMIAM allowance would not give the necessary investment certainty to TNSPs therefore may deter businesses from investing in innovation. TransGrid	Maintain opex only approach. Funding capex under the DMIAM may result in consumers also funding the capital cost of failed attempts for the life of the new assets that do not deliver value to consumers.

	encouraged an ex-ante approval of the allowance, which is consistent with distributors. PIAC did not express preference on whether an ex ante or ex post assessment but willing to examine this issue further. PIAC supported opex only DMIAM allowance. ENA disagreed that DMIAM project to be limited to opex and minor capital expenditure should be allowed. Limiting to opex may constrain innovation of special protection schemes or network modelling, which third parties are not able to deliver or implement.	
DMIAM allowance true up.	PIAC supported any underspend DMIAM should be returned to consumers and any overspend should be borne by the TNSPs. ENA agreed to the true up.	Maintain DMIAM allowance true up as proposed.

A.2 Identifying eligible projects

Proposed position	Submissions	Our response
Definition of demand management	PIAC submitted that interpretation of demand management criteria should be broader instead of peak demand only. ENA submitted to adopt a broader demand management definition, using Distribution DMIAM definition.	We will adopt the distribution DMIAM definition.

Proposed project sub-criteria on "new and original"	PIAC was generally supportive of the sub criteria, noting the onus must be on TNSPs to demonstrate how the proposals meet "new and original" criteria. ENA supported the consideration of geographic and demographic characteristics of new or original concepts.	Maintain the proposed sub criteria.
The concept that project must not be known to be efficient or prudent	ENA supported the concept.	Maintain the proposed sub criteria.
Extend DMIAM 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.	ENA supported.	Maintain the proposed sub criteria.
No double dipping for funding.	PIAC supported, noting this must not prevent co-funding from other sources.	Maintain the proposed sub criteria.
We proposed a numbers of possible measures to encourage NSPs to share what they have learned as a result of undertaking the DMIAM projects.	ENA disagreed with these proposals because they are not requirements under the distribution DMIAM.[41]	We have also added an additional criteria that must be satisfied in order for a project to be an eligible project - namely that the TNSP must give a prior public commitment to share the results, learnings and insights of the project. This is discussed further in section 5.4 of Explanatory statement.

A.3 Compliance reporting and independent panel endorsement

[41] ENA, Submission on AER transmission DMIAM issues paper, 2 October 2020, p. 11. PIAC, Submission on AER transmission DMIAM issues paper, 2 October 2020, pp. 2-3.

Proposed position	Submissions	Our response
Proposal for an independent panel	TransGrid was concerned that this approach may unduly increase costs to consumers with no tangible benefits or/and outcomes where TNSPs have the necessary experts in-house to review and evaluate any proposed demand management project. Furthermore, if an ex-ante approach is adopted the AER will undertake the necessary reviews. PIAC supported an independent panel. However, it should complement ex ante assessment not replace AER's own assessment. The review must incorporate consumer or community perspectives, preferences and interests. PIAC proposed various mechanism to achieve this: formal consumer representation in the panel; through consultation with consumers and consumer groups; or combination of these two. ENA supported ex ante review of DMIAM projects, adopting NCIPAP type approach to justify projects up front and ex post review on the cost. ENA disagreed with an independent panel because it will add to the cost and may not be necessary. It proposed using current consultative approach when a revenue proposal is developed.	A suitably established independent panel will provide value of money because it can guide TNSPs to invest the funding more effectively and to reflect customers' preferences amongst various choices. We consider appropriate to encourage but not mandate an independent advisory panel. We have amended the DMIAM to include a commitment that the AER will take any endorsement by an independent advisory panel into account in its ex post consideration of the project. The independent members of a panel should have relevant knowledge and experience in electricity markets, networks and demand management. The independent panel should also include customer/community representatives. TNSPs might potentially set up joint independent panels to share the cost.

Information and reporting requirements.	ENA supported a streamlined project reporting and approval processes, noting the level of required reporting details should also be streamlined and focus on demonstrating that project activity is in line the nature, scope, aims and expectations, with project scope, aims and key benefits to be shared.	Maintain the proposed information and reporting requirements.
Project elements in compliance reporting and sharing of learning.	ENA supported project elements and sharing of learning, noting reporting obligation should be proportionate to funding or size of the project.	Maintain project elements in compliance reporting and sharing of learning.
Publish the names of those DNSPs who do not share the learning	ENA disagreed, noting this was not requirement under distribution DMIAM. TNSPs can seek recognition for innovative projects under ENA annual rewards.	Given the R&D works are funded by consumers, we consider it is necessary for TNSPs to share their knowledge and understanding of innovative demand management projects that have the potential to reduce long term network costs, and therefore prices for consumers. This will be facilitated by the proposed requirement in the transmission DMIAM that TNSP must prepare project-specific reports about the outcomes of each project, which the AER will be able to publish. The DMIAM will require TNSPs to make a public commitment to share project results and learnings. The DMIAM will include a clawback mechanism to enable the recovery of funding from TNSPs if that commitment is not honoured. It will do so by enabling the AER to reduce the total amount of the DMIAM allowance recoverable in any

		particular year by the amount of the DMIAM allowance for a project in respect of which the TNSP has failed to comply with a sharing request in relation to that project. The AER will also have the option of naming TNSPs who do not share information.
AER to approve DMIAM funding for only those DM projects where learning information has been shared with other TNSPs.	ENA disagreed. This was not requirement under distribution DMIAM.	As discussed above, the DMIAM will include a clawback mechanism to enable the recovery of funding from TNSPs if that commitment is not honoured.
AER should obtain detailed results from the TNSP for publication so that the learnings can be accessed by stakeholders.	ENA disagreed, in light of the requirement to publish the project report and share the learnings.	As discussed above, the DMIAM will include a clawback mechanism to enable the recovery of funding from TNSPs if that commitment is not honoured.