



Australian Energy Market Commission

CONSULTATION PAPER

National Electricity Amendment (Inclusion of Embedded Generation Research into Demand Management Incentive Scheme) Rule 2011

Rule Proponent(s)

Ministerial Council on Energy

23 June 2011

**RULE
CHANGE**

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About the AEMC

The Council of Australian Governments, through its Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005. The AEMC has two principal functions. We make and amend the national electricity and gas rules, and we conduct independent reviews of the energy markets for the MCE.

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1 Introduction

On 4 November 2010, the Ministerial Council on Energy (MCE) (Proponent) submitted a Rule change request to the Australian Energy Market Commission (AEMC or Commission) in relation to implementation of the Rule change proposals arising from the AEMC's Final Report on the Stage 2 Review of Demand Side Participation (DSP) in the National Electricity Market (NEM).

The MCE's Rule change request seeks to initiate three separate Rule changes that include:

- amending the Efficiency Benefit Sharing Scheme framework applicable to transmission businesses to require the Australian Energy Regulator (AER) to consider the scheme's effect on the businesses' incentive to undertake demand management or other DSP related (i.e. non-network alternatives) expenditure;
- expanding the Demand Management Incentive Scheme (DMIS) for distribution businesses (DNSPs) include incentives for innovation in connection of embedded generators; and
- clarifying the arrangements for avoided transmission use of system (TUOS) payments to generators so that an embedded generator that is already receiving network support payments does not also receive avoided TUOS payments.

As the subject matter of each Rule change proposed is not related or inter-dependent, the proposed Rule changes have been disaggregated into three separate projects to allow the AEMC to more efficiently assess each Rule on its merits within the Rule change process. This project (ERC0128) specifically deals with the MCE's Rule change proposal on expanding the DMIS to include innovation in connection of embedded generators.

The other proposed Rules are being consulted on separately under AEMC project reference codes "ERC0127 - Efficiency Benefit Sharing Scheme and Demand Management Expenditure by Transmission Businesses" and "ERC0129 - Network Support Payments and Avoided TUOS for Embedded Generators".

This Consultation Paper has been prepared by the staff of the AEMC to facilitate public consultation on the DMIS component of the Rule change proposal and does not necessarily represent the views of the AEMC or any individual Commissioner of the AEMC.

This paper:

- sets out a summary of, and a background to the DMIS framework applicable to DNSPs and the changes proposed by the Proponent;
- identifies a number of questions and issues to facilitate the consultation on this Rule change request; and
- outlines the process for making submissions.

2 Background

This chapter provides the background to the Rule change request on the DMIS. It provides an overview of the current DMIS framework and a summary of the AEMC's Stage 2 Final Report on Review of Demand Side Participation in the NEM (Stage 2 DSP Review), which recommended the proposed Rule change to the MCE.

2.1 Overview of the DMIS framework

Under the current Chapter 6 economic regulatory framework for DNSPs, the AER is provided with the discretion to develop a DMIS to provide incentives for DNSPs to implement efficient non-network alternatives, or to manage the expected demand for standard control services in some other way.¹

In developing and implementing a DMIS, the AER must have regard to:

- the need to ensure that benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme for DNSPs;
- the effect of a particular control mechanism (i.e. controls over prices as distinct from controls over revenues) on a DNSP's incentives to adopt or implement efficient non-network alternatives;
- the extent the DNSP is able to offer efficient pricing structures;
- the possible interaction between a DMIS and other incentive schemes; and
- the willingness of the customer or end user to pay for increases in costs resulting from implementation of the scheme.²

To date, the AER has implemented a DMIS as part of the revenue determinations of all the DNSPs in New South Wales, Australian Capital Territory, Queensland, South Australia, Victoria and Tasmania.

Different DMIS apply in different jurisdictions primarily because of the AER's decision to continue similar schemes established previously in each jurisdiction for the first round of its revenue determinations. However, the AER's schemes are generally divided in two parts.

The first part provides a Demand Management Innovation Allowance (DMIA) for expenditure on non-network alternatives in each year of the regulatory control period. The DMIA is provided up front at the time of the revenue determination and the expenditure is monitored and reported on ex post against approval criteria established in the scheme. Any unspent or unapproved allowance is returned to customers in the following regulatory control period.

¹ Clause 6.6.3(a) of the Rules.

² Clause 6.6.3(b) of the Rules.

The second part addresses the impacts that certain forms of control (such as the weighted average price cap) may have on a DNSP's incentives to undertake efficient demand management. It allows DNSPs to recover any foregone revenue as a consequence of less energy sold due to successful demand management projects implemented using the allowance.

In developing the DMIS, the AER has stated that the DMIS is not intended to be the sole, or even the primary, source of recovery of demand management expenditure by the DNSPs.³ The DMIS is designed to supplement a DNSP's approved capital expenditure (capex) and operating expenditure (opex) to facilitate investigation and implementation of demand management strategies.

The scheme aims to provide incentives for DNSPs to conduct research and investigation into innovative techniques for managing demand so that, in the future, demand management projects may be increasingly identified as viable alternatives to network augmentation solutions.

2.2 Stage 2 DSP Review recommendations

In November 2009, the AEMC provided its Final Report on Stage 2 DSP Review to the MCE. The Stage 2 DSP Review was undertaken with an explicit focus on the current Rules to determine whether there were material barriers to the efficient and effective use of DSP in the NEM. The Stage 2 DSP Review's overall finding was that, in the context of the current technology, the Rules framework does not materially bias against the use of DSP. However, it identified a number of aspects of the current Rules that could be improved to enhance demand-side participation.

In examining the incentives for innovation, the Stage 2 DSP Review found that, absent additional incentives, the existing framework did not encourage DNSPs to appropriately innovate for DSP or embedded generation connections.

Consistent with findings in the Review of Energy Market Frameworks in light of Climate Change Policies, the Stage 2 DSP Review recommended that the Rule establishing the DMIS should be expanded to also include incentives for innovation in connection of embedded generators.

2.3 MCE response to the Stage 2 DSP Review

In June 2010, the MCE released its response to the Stage 2 DSP Review recommendations. The MCE generally supported the overall findings of the Review and agreed to initiate the recommended Rule change on expanding the DMIS.

Accordingly, on 4 November 2010, the Commission received MCE's Rule change request.

³ See for example, AER, *DMIS Jemena, CitiPower, Powercor, SP AusNet and United Energy 2011-15*, April 2009, p.3.

3 Details of the Rule Change Request

The Rule change request from the Proponent proposes that clauses 6.6.3(a) and (b) be expanded to require the AER in developing and implementing a DMIS, to have regard to incentives for DNSPs to consider more innovative and cost effective ways of connecting embedded generators to their distribution network. This Rule change also seeks to amend the title of DMIS to “Demand Management *and Embedded Generation Connection* Incentive Scheme” to explicitly recognise embedded generators for inclusion in the funding eligibility under the scheme.

In its Rule change request the MCE provides its rationale for the Rule change. A number of key points raised in the Rule change request is summarised below:

- the MCE acknowledged the Stage 2 DSP Review finding that innovation in electricity networks is likely to become increasingly important, particularly as a result of climate change policies which may drive the connection of lower carbon technologies and increase focus on the ways that energy use can be managed;
- the MCE believes that the prospects of more customers using embedded generation as a substitute for electricity sourced from the main network is likely to increase in light of government incentives such as feed-in tariffs and rebates. The MCE agrees with the Stage 2 DSP Review recommendation that absent additional incentives, the existing economic framework may not encourage DNSPs to deliver cost efficient connections for embedded generators;
- the MCE states that there is currently an imbalance between a DNSP’s strong incentive to focus on network reliability and safety and weak incentive to manage costs associated with embedded generator connections. The MCE notes the Stage 2 DSP Review finding that the imbalance is currently driven by the discretion DNSPs are afforded with respect to prescribing the minimum technical standards for connecting to their network and their ability to require the connecting embedded generators to meet the cost of implementing those standards; and
- The MCE believes that as a mechanism to address this particular lack of incentive for DNSPs, the existing DMIS should be expanded to include projects that explore innovation in connection of embedded generators. The MCE also emphasises that the intention of expanding the DMIS as proposed is to support and encourage innovation in connections, not for *all* embedded generations to be supported under the DMIS.

The MCE's Rule change request included a proposed Rule, which is provided as Appendix A to this Consultation Paper.

4 Assessment Framework

The Commission's assessment of this Rule change request must consider whether the proposed Rule promotes the National Electricity Objective (NEO) as set out under section 7 of the National Electricity Law (NEL), which is as follows:

“The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to -

- (a) price, quality, safety, reliability and security of supply of electricity;
and
- (b) the reliability, safety and security of the national electricity system.”

The proposed Rule seeks to enhance efficient DSP by facilitating improvement in connection processes for embedded generators, thus counteracting the current potential imbalance due to DNSP's control over prescribing the technical requirements for connections. The MCE believes that over the long term, the proposed Rule will serve the interest of consumers by providing a better balance between the quality, safety, reliability and security of distribution networks as well as the price of accessing the relevant electricity service (namely the connection of embedded generators to the distribution network).

In assessing the proposed Rule against the NEO, the following issues have been identified for consideration:

- *prescription versus flexibility in applying the DMIS* - implications for the implementation of the proposed Rule given the discretionary nature of the existing Rule on the design and implementation of the DMIS by the AER; and
- *level of DMIA and DNSP incentive to support embedded generation research* - consideration of whether the AER's existing approach to only allowing modest levels of DMIA are likely to be sufficient to accommodate funding for innovation in connection of embedded generators and whether the DNSPs will be encouraged to undertake risky research projects with potentially only longer term benefits.

The proposed Rule will be assessed against the relevant counterfactual arrangements, which in this case are the current DMIS provisions in the Rules.

5 Issues for Consultation

Taking into consideration the assessment framework and potential requirements to implement the proposed Rule change, we have identified a number of issues for consultation that appear to be relevant to this Rule change request.

These issues outlined below are provided for guidance. Stakeholders are encouraged to comment on these issues as well as any other aspect of the Rule change request or this paper including the proposed framework.

5.1 Prescription versus flexibility

The primary source of funding for demand management projects is the opex and capex allowances approved in the AER's distribution determination for a DNSP. The distribution Rules require the AER's assessment of a DNSP's opex and capex proposals to include an examination of non-network alternatives.⁴

The DMIA is designed to provide additional incentives for DNSPs to conduct demand management to those present within the broader regulatory framework. As a result, the current Rules provide the AER with discretion on whether a not to establish and implement a DMIS as an additional source of funding.

Once the AER decides to establish a DMIS, the existing Rules are not prescriptive on how the scheme should be implemented other than to specify a number of objectives that the AER must have regard to in designing and implementing a DMIS. The DMIS objectives include:

- the need to ensure that benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme;
- the effect of a particular control mechanism (i.e. price – as distinct from revenue – regulation) on a DNSP's incentives to adopt or implement efficient non-network alternatives;
- the extent the DNSP is able to offer efficient pricing structures;
- the possible interaction between a DMIS and other incentive schemes; and
- the willingness of customers to pay for increases in costs resulting from implementation of the scheme.

The proposed Rule will add the additional objective of incentivising DNSPs to undertake innovation in embedded generation connections as part of the scheme.

The AER currently decides on a case by case basis on whether or not to implement a DMIS for a DNSP as part of its distribution revenue determination. While the AER has

⁴ Clauses 6.5.6 (e) (10) and 6.5.7 (e) (10) of the Rules.

indicated its intention to develop a national DMIS, the proposed Rule may not promote improved incentives for innovation as envisaged if the AER decides not to implement a DMIS for any particular DNSP.

Issue	Prescription versus flexibility in applying the DMIS
1.	To what extent do DNSPs currently seek funding for innovation in connection of embedded generators or other forms of demand management projects as part of their opex and capex proposals?
2.	How effective is the existing DMIS framework for incentivising DNSPs to pursue innovation projects on embedded generators?

5.2 Level of DMIA and DNSP incentives to support embedded generation research

The proposed Rule has implications for the level of DMIA the AER is likely to approve for any particular DNSP under the scheme. The majority of submissions to the Stage 2 DSP Review indicated that innovation funding for non-network alternatives was important for encouraging efficient DSP outcomes. However, submissions also indicated that the existing DMIA is not effective in overcoming the barriers to innovation for DNSPs. In particular, some stakeholders were of the view that the amount of money available from the AER under DMIA was insufficient to prove beneficial for increasing DSP.⁵

The funding level of the DMIA set by the AER in its first round of DNSPs revenue determinations has also been criticised by some stakeholders. The AER has itself acknowledged that the DMIA is modest and little empirical evidence has been gathered on customers' willingness to pay for such initiatives.⁶ However, the AER has noted that since customers effectively fund the DMIA, it would be inappropriate to increase the amounts provided for untested initiatives under the scheme.⁷

Furthermore, under the existing DMIS framework, the AER cannot compel a DNSP to increase or spend their full DMIA on non-network alternative projects as it is provided on a "use-it-or-lose-it" basis. A DNSP's concern and attitude about maintaining network security and reliability may outweigh the incentives available under DMIS for it to undertake riskier and innovative trial projects, the benefits of which may only materialise in the longer term.

Therefore, the likely success of the proposed Rule depends on the appetite of DNSPs to propose innovative projects to pursue that promote innovation in connection of embedded generators and the extent of the DMIA the AER sets for this purpose.

⁵ See for example submissions from United Energy, Total Environment Centre and EnergyAustralia in response to the DSP 2 Review Draft Report, available on the AEMC's website.

⁶ See for example, AER, *Victorian Electricity Distribution Determinations 2011-2015 – Final Decision*, October 2010, p.802.

⁷ Ibid.

Issue	Level of DMIA and DNSP incentives to support embedded generation research
1.	To what extent will the proposed Rule incentivise DNSPs to undertake more projects on finding cheaper ways to connect embedded generators? Is it likely to materially change the DNSPs existing incentives to pursue riskier and innovative trial projects?
2.	What types of embedded generators are likely to benefit most from the proposed Rule change?
3.	Will the proposed Rule result in the need for increased funding for DMIS and hence require higher DMIA than the current level of allowances?
4.	Is there likely to be any material financial impact on electricity consumers to fund the any increased DMIA resulting from the proposed Rule? How should this be weighed against the benefits of having embedded generators connected more cheaply?

6 Lodging a Submission

The Commission has published a notice under section 95 of the NEL for this Rule change proposal inviting written submission. Submissions are to be lodged online or by mail by 21 July 2011 in accordance with the following requirements.

Where practicable, submissions should be prepared in accordance with the Commission's Guidelines for making written submissions on Rule change proposals.⁸ The Commission publishes all submissions on its website subject to a claim of confidentiality.

All enquiries on this project should be addressed to Zaeen Khan on (02) 8296 7800.

6.1 Lodging a submission electronically

Electronic submissions must be lodged online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function and selecting the project reference code ["ERC0128"]. The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

Upon receipt of the electronic submission, the Commission will issue a confirmation email. If this confirmation email is not received within 3 business days, it is the submitter's responsibility to ensure the submission has been delivered successfully.

6.2 Lodging a submission by mail

The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated. The submission should be sent by mail to:

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Or by Fax to (02) 8296 7899.

The envelope must be clearly marked with the project reference code: ERC0128.

Except in circumstances where the submission has been received electronically, upon receipt of the hardcopy submission the Commission will issue a confirmation letter.

If this confirmation letter is not received within 3 business days, it is the submitter's responsibility to ensure successful delivery of the submission has occurred.

⁸ This guideline is available on the Commission's website.

Abbreviations

AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
Commission	See AEMC
DMIA	Demand Management Innovation Allowance
DMIS	Demand Management Incentive Scheme
DNSP	distribution business
DSP	Demand Side Participation
MCE	Ministerial Council on Energy
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
opex	operating expenditure
Stage 2 DSP Review	AEMC's Stage 2 Final Report on Review of Demand Side Participation in the NEM
TUOS	transmission use of system

A Proposed Rule

The Proponent’s Rule change request contains a copy of a draft of the proposed Rules. These draft amendments include proposed Rule changes that are not related to the proposed Rule that is the subject of this Consultation Paper.

Since the MCE’s Rule change request has been disaggregated, the amendments reproduced below only relate to the Inclusion of Embedded Generation Research into Demand Management Incentive Scheme component of the Rule change request. It is reproduced without amendments or corrections, except for minor formatting changes.

Amendment of National Electricity Rules – Chapters 6 and 10

[1] References to “demand management incentive scheme”

In clauses 6.3.2(a)(3), 6.4.3(a)(5), 6.4.3(b)(5), 6.6.3(b), 6.6.3(b)(4), 6.8.1(b)(4), 6.12.1(9) and S6.1.3(5), omit all references to “*demand management incentive scheme*” and substitute “*demand management and embedded generation connection incentive scheme*”.

[2] Clause 6.6.3 Demand management incentive scheme

In the heading of clause 6.6.3, omit “*Demand management incentive scheme*” and substitute “*Demand management and embedded generation connection incentive scheme*”.

[3] Clause 6.6.3 Demand management incentive scheme

Omit clause 6.6.3(a) and substitute:

The *AER* may, in accordance with the *distribution consultation procedures*, develop and *publish* an incentive scheme or schemes (*demand management and embedded generation connection incentive scheme*) to provide incentives for *Distribution Network Service Providers* to implement efficient non-network alternatives, to manage the expected demand for standard control services in some other way, or to connect efficiently embedded generators.

[4] Clause 6.6.3 Demand management incentive scheme

In clause 6.6.3(b)(4), omit “and” where lastly occurring.

[5] Clause 6.6.3 Demand management incentive scheme

In clause 6.6.3(b)(5), omit “.” and substitute:

; and

(6) the effect of the classification of *distribution services*, as determined in accordance with clause 6.2.1, on a *Distribution Network Service Provider’s* incentive to adopt or implement efficient *embedded generator connections*.

[6] Chapter 10 Deleted Definitions

In Chapter 10, omit the following definition:

demand management incentive scheme

An incentive scheme for certain *Distribution Network Service Providers* developed and *published* by the AER under clause 6.6.3.

[7] Chapter 10 New Definitions

In Chapter 10, insert the following new definition in alphabetical order:

demand management and embedded generation connection incentive scheme

An incentive scheme for certain *Distribution Network Service Providers* developed and *published* by the AER under clause 6.6.3.
