Explanatory statement

Proposed Demand Management and Embedded Generation Connection Incentive Scheme

ActewAGL Distribution

May 2012

AUSTRALIAN ENERGY REGULATOR

Request for submissions

Interested parties are invited to make written submissions to the Australian Energy Regulator (AER) regarding this document by the close of business, 1 August 2012.

Submissions should be sent electronically to: NSWACTelectricity@aer.gov.au

Alternatively, submissions can be mailed to:

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General Manager, Network Regulation
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

The AER prefers that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are requested to:

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

All non-confidential submissions will be placed on the AER's website at www.aer.gov.au. For further information regarding the AER's use and disclosure of information provided to it, see the *ACCC/AER Information Policy*, October 2008 available on the AER's website.

Enquiries about this paper, or about lodging submissions, should be directed to the Network Regulation branch of the AER on (02) 9230 9133.

Contents

Shortened forms

AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
ActewAGL	ActewAGL Distribution
capex	capital expenditure
current regulatory control period	1 July 2009 to 30 June 2014
DMEGCIS	demand management and embedded generation connection incentive scheme
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme[1]
DNSP	distribution network service provider
EBSS	efficiency benefit sharing scheme
F&A	framework and approach
MCE	Ministerial Council on Energy
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
next regulatory control period	1 July 2014 to 30 June 2019
opex	operating expenditure
STPIS	service target performance incentive scheme

[1] For the purposes of this document, all references to DMIS relates to the following document: AER, *Demand management incentive scheme for the ACT and NSW 2009 distribution determinations–Demand management innovation allowance scheme*, November 2008.

Rule Change

On 22 December 2011, an amendment was made to the National Electricity Rules (NER),the National Electricity Amendment (Inclusion of Embedded Generation Research into Demand Management Incentive Scheme) Rule 2011 No. 11.[2] Clause 6.6.3 of the NER now refers to the Australian Energy Regulator (AER) developing and publishing a demand management and embedded generation connection incentive scheme (DMEGCIS).

All references to a *demand management incentive scheme* (DMIS) in the NER have been omitted and substituted with DMEGCIS. The NER clauses affected in this way are:

- clause 6.3.2(a)(3)
- clause 6.4.3(a)(5)
- clause 6.4.3(b)(5)
- clause 6.6.3 (including the title and various references throughout).

Pursuant to this rule change, there have also been certain additions and modifications to the substance of the NER. These include:

- a definition of the DMEGCIS has now been inserted as cl. 6.1.1A of the NER
- clause 6.6.3(a) of the NER now refers to a DMEGCIS providing incentives for distribution network service provider (DNSP) to 'implement efficient non-network alternatives, or to manage the expected demand for standard control services in some other way, or to efficiently connect embedded generators'
- clause 6.6.3(b)(6) has also been inserted into the NER. The AER is required to consider 'the effect of classification of distribution services, as determined in accordance with clause 6.2.1, on a DNSPs incentive to adopt or implement efficient embedded generator connections'.

[2] AEMC, Rule determination: *National Electricity Amendment (Inclusion of Embedded Generation Research into Demand Management Incentive Scheme) Rule 2011 No. 11*, December 2011.

1 Introduction

The AER may in accordance with the distribution consultation procedures, develop and publish a DMEGCIS.[3] The DMEGCIS is designed 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, or to efficiently connect embedded generators.[4]

The DMEGCIS provides incentives for DNSPs to seek out and undertake alternatives to traditional network augmentation in response to increases in peak demand or annual electricity consumption or demand. This can occur through a variety of measures which seek to either defer capital expenditure (capex) that would otherwise be required to respond to network demand, or, in some cases, remove the need for that capex all together.

1.1 Current scheme

In the current regulatory control period, the AER applied its DMIS to ActewAGL Distribution (ActewAGL).[5] This scheme consists of two components.[6] The first component is an ex-ante allowance known as the demand management innovation allowance (DMIA). The second is the recovery of forgone revenue directly attributable to the implementation of a non-tariff demand management program approved under the DMIA.

1.2 Amendments to the current scheme

The explanatory statement sets out amendments to establish the AER's proposed DMEGCIS. In the context of the preliminary framework and approach (F&A) paper for ActewAGL to be published by July 2012, the AER considers it appropriate to apply an amended version of the current DMIS to ActewAGL for the next regulatory control period. The AER has adopted the rule change in its proposed DMEGCIS.

The Australian Energy Market Commission (AEMC) is currently undertaking a review of demand-side participation in the National Electricity Market (NEM) through the Power of Choice review. The AEMC is expected to provide final advice to the Ministerial Council on Energy (MCE) in September 2012.

While the AER's approach to the DMEGCIS may require revision at the conclusion of this review, the AER considers that the operation of the scheme is appropriate for the purposes of the AER's preliminary F&A paper. The AER will consider its position after the Power of Choice review has concluded.

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3 NER, cl. 6.6.3(a).

4 NER, cl. 6.6.3(a).

5 AER, *Demand management incentive scheme for the ACT and NSW 2009 distribution determinations–demand management innovation allowance scheme*, November 2008.

6 AER, *Demand management incentive scheme for the ACT and NSW 2009 distribution determinations–demand management innovation allowance scheme*, November 2008; AER, Final decision: *Australian Capital Territory distribution determination 2009–10 to 2013–14*, April 2009, p. 122.

1.3 Submissions

Stakeholders and interested parties are invited to make submissions on the AER's proposed DMEGCIS. Submissions on the development of the proposed scheme and its application to ActewAGL may be provided separately or in one submission. The closing date for all submissions is 1 August 2012.

2 Requirements of the National Electricity Rules

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

- 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. 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 DMEGCIS and other incentive schemes
- the willingness of the customer or end user to pay for increases in costs resulting from implementation of the scheme
- the effect of classification of distribution services, as determined in accordance with cl. 6.2.1 of the NER, on a DNSPs incentive to adopt or implement efficient embedded generator connections. [7]

Clause 6.6.3(c) of the NER permits the AER to replace or amend a scheme which has been previously developed and published under cl. 6.6.3 of the NER.

2.1 Consultation process

The distribution consultation procedures set out in Part G of chapter 6 of the NER apply to the amendments proposed by the AER.[8] These consultation procedures require the AER to publish the proposed DMEGCIS, an explanatory statement, and an invitation for written submissions.[9]

Stakeholders and interested parties must be allowed no less than 30 business days to provide a written submission.[10] Submissions on the AER's proposed DMEGCIS to apply to ActewAGL and the accompanying explanatory statement are due on 1 August 2012. Within 80 days of publishing the explanatory statement and the proposed DMEGCIS, the AER must publish its final decision on DMEGCIS, and the DMEGCIS incorporating, these amendments.[11]

7 NER, cl. 6.6.3(b).

8 NER, cl. 6.6.3(c), r. 6.16.

9 NER, r. 6.16.

10 NER, r. 6.16(3)(c).

11 NER, r. 6.16(e).

The proposed DMEGCIS and explanatory statement outlines the amendments to the AER's current scheme. The explanatory statement has been prepared to meet the AER's obligations under the distribution consultation procedures.[12]

[12] NER, cl. 6.16.

3 The proposed DMEGCIS and reasons for the amendments

The AER proposes to amend the DMIS which applies to ActewAGL in the current regulatory control period in accordance with the rule change. The amended scheme will then apply as the proposed DMEGCIS for the next regulatory control period, from 1 July 2014 to 30 June 2019 and beyond.

ActewAGL is subject to the AER's DMIS in the current regulatory control period. The AER intends to make amendments to change the name of the scheme to reflect the recent AEMC rule change. The scheme will now be called DMEGCIS in the next regulatory control period and beyond. The scheme document will also require consequential amendments throughout to provide certainty as to the inclusion of, and to clarify the operation of the scheme with respect to, embedded generator connections.[13]

Therefore, the proposed DMEGCIS which is to apply to ActewAGL in the next regulatory control period will function in the same manner as the DMIS, although with amendments to clarify the scope of the scheme. The proposed DMEGCIS is attached to this explanatory statement, providing detail of the amendments to the DMIS.

The proposed DMEGCIS consists of two parts

- part A–the DMIA
- part B–the recovery of forgone revenue.

The objective of a DMEGCIS is to provide funding for DNSPs to implement efficient non-network alternatives or to manage the expected demand for standard control services in some other way, or to efficiently connect embedded generators.[14]

The DMEGCIS is not intended to be the sole or primary source of recovery for demand management expenditure. Instead, the DMEGCIS acts as an additional incentive where the initiative has not been included in the core revenue proposal at the time of the distribution determination, or to correct disincentives inherent in the regulatory framework.

3.1 Amendments to reflect the AEMC rule change

The AER considers it necessary to amend the title of the DMIS in light of the AEMC's rule change.[15] The AER recognises the importance of conceptual certainty as to the scope of the scheme, in particular the inclusion of innovation in the connection of embedded generators. The AER's current DMIS requires amendments throughout the document to give effect to the name change. Further, the AEMC's rule change requires the recognition of the operation of the scheme with respect to efficient embedded generator connections.

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13 NER, cl. 6.6.3(b).

14 NER, cl. 6.6.3(a).

15 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of Embedded Generation Research into Demand Management Incentive Scheme) Rule 2011 No. 11*, December 2011.

As discussed in section 1.2 of the explanatory statement, the AER considers that, in present circumstances, no further amendments are required to address the AEMC's rule change.

The major concerns raised in connection with the DMIS, as part of the AEMC rule determination, related to:

- the scope of the DMIA
- the amount of the DMIA.[16]

These are addressed separately below.

3.2 Scope of the DMIA

As part of the demand management incentive scheme rule change process, submissions indicated a requirement for the scope of the DMIA to be broadened to deliver sufficient incentives for the efficient connection of embedded generators.[17]

The AEMC set out in its rule determination, that under the structure of the existing scheme, DNSPs had the flexibility to propose projects or programs which could encompass demand management or the connection of embedded generators.[18]

The AER considers that it is not necessary to expand the current access criteria, nor develop specific access criteria for embedded generator connection projects or programs. The AER maintains its position, expressed in its submission to the AEMC, that projects or programs targeted to research and development in efficient connection of embedded generators are within the scope of the current DMIS.[19] Nonetheless, the AER has made amendments to both the title and substance of the DMIS in its proposed DMEGCIS which clarify the scope of the DMIA in response to the concerns of stakeholders.

3.3 Amount of the DMIA

The AER is of the view that the existing DMIS contemplates the inclusion of efficient connection of embedded generators.[20] The AER considers that the magnitude of the DMIA remains appropriate for the next regulatory control period.[21] The reasons for the AER's views are:

16 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011 No. 11*, December 2011, pp. 17–23.

17 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011 No. 11*, December 2011, pp. 15–21.

18 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011 No. 11*, December 2011, p. 22.

19 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011 No. 11*, December 2011, pp. 29–30.

20 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011*, December 2011, pp. 29–30.

21 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011 No. 11*, December 2011, p. 21. The AER acknowledges that in the rule change process, the AEMC agreed with stakeholders that any material benefits to be realised

- the DMIA is not intended to be the sole means of recovery of expenditure for demand management initiatives, including the research and development of innovative and cost-effective means of connecting embedded generators. The costs of such projects or programs should, in the first instance, be included in the DNSP's forecast capex and opex as part of the next distribution determination

- recent data collected through the AER's annual reporting regulatory information notices (RINs) indicates that DNSPs are yet to spend its DMIA allocation for the current regulatory control period. Given the lack of spending to date, the AER does not have an indication that the current allowance is insufficient

- it is not necessary, nor efficient, to provide a separate, additional allowance for projects or programs which are targeted towards efficient connection of embedded generators. Requiring the DNSP to allocate a fixed allowance to either these projects or programs, or those involving demand management generally, ensures that only the most effective and beneficial projects or programs will be undertaken.[22]

Any increase in the DMIA in subsequent regulatory control periods will be based on the DNSP's practical experience with the allowance in the next regulatory control period. The AER will closely review any developments resulting from the express inclusion of embedded generator connection projects or programs.

from the rule change will require DNSPs to secure additional funding under the DMIA. The AEMC considered that the appropriate level of funding was a decision to be left with the AER.

[22] AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011 No.11*, December 2011, p. 22. The AEMC makes similar observations in its rule determination.

4 Consideration of factors set out in the NER

In developing a DMEGCIS for ActewAGL, the AER must have regard to the factors set out in cl. 6.6.3 of the NER. The AER considers that its proposed DMEGCIS sufficiently addresses cl. 6.6.3(b)(1) through to cl. 6.6.3(b)(5) of the NER. The AER also considers that its proposed DMEGCIS sufficiently addresses the newly inserted cl. 6.6.3(b)(6) of the NER. The AER's consideration of these clauses is discussed below.

4.1 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

A DMEGCIS must be designed so that the costs to consumers resulting from the associated adjustment to regulated revenues do not exceed the benefits expected to result from the scheme. In striking the appropriate balance, it must be recognised that the operation of the scheme may result in cost impacts within a regulatory control period where the benefits are unlikely to be obtained until later regulatory control periods.

The AER considers that its proposed DMEGCIS will encourage the implementation of demand management initiatives and efficient connection of embedded generators. These activities are likely to provide long term efficiency gains to energy consumers that will outweigh any short term price increases. The DMEGCIS is designed to:

- facilitate investigation and pursuit by DNSPs of efficient, broad-based and or innovative demand management projects and programs that have the potential to lead to the implementation of efficient non-network solutions within and beyond the regulatory control period
- facilitate investigation and pursuit by DNSPs of cost-effective and innovative means of connecting embedded generators, that will potentially improve the effectiveness of tariff based demand management initiatives and the efficiency of electricity networks generally
- encourage a more complete management of the demand for standard control services.

The DMEGCIS can promote initiatives which reduce investment in new infrastructure through either deferral of, or removal of the need for, network augmentation and or expansion expenditures. The DMEGCIS could also be used to implement initiatives which result in a more efficient use of existing infrastructure. Such initiatives may lead to lower:

- demand overall
- network investment
- customer electricity prices.

The DMIA is provided on a 'use it or lose it' basis. The AER does not consider the DMIA to be overly burdensome on end users that bear this cost in the long term.

The AER considers that its proposed DMEGCIS is designed to provide incentives for DNSPs to conduct demand management, which are additional to those present within the broader regulatory framework. The AER also considers that increases in tariffs as a result of the scheme's implementation are expected to be minimal.

4.2 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

In developing the DMEGCIS, the AER has had regard to the effects that particular control mechanisms have on the incentives or disincentives for DNSPs to undertake demand management. The AER accepts that incentives for demand management may be affected by the control mechanism applied to a DNSP's standard control services.

The AER considers that where a revenue cap applies to a DNSP, the recovery of allowed revenues is not dependent on energy sales, and as a result, part B of the scheme will not apply. However, under forms of control where revenue is at least partially dependent on the quantity of electricity sold (e.g. a price cap or an average revenue cap), a DNSP has a disincentive to reduce electricity sales. To remove this disincentive, the AER will allow a DNSP subject to such a form of control to recover forgone revenue in accordance with part B of the scheme.

The AER considers that part B of the DMEGCIS sufficiently addresses the effect of certain forms of control on the incentives for ActewAGL to implement efficient non-network alternatives.

4.3 The extent the DNSP is able to offer efficient pricing structures

The AER considers that, in developing its proposed DMEGCIS, it has had regard to the extent that DNSPs are able to offer efficient pricing structures. This is so that at a particular point in the network, the price of electricity reflects the true costs of supply at that location at a particular time. Efficient pricing structures would allow prices to reflect increases in the costs of electricity supply during times of peak demand.

The AER considers that efficient pricing structures can assist the effectiveness of demand management projects or programs. Further, the DMEGCIS will provide further incentives for DNSPs to investigate demand management projects or programs, including tariff-based demand management initiatives.

4.4 The possible interaction between a DMEGCIS and other incentive schemes

The AER has had regard to the effect that the application of the amended scheme will have on the incentives created by the Efficiency Benefit Sharing Scheme (EBSS) and Service Target Performance Incentive Scheme (STPIS), and vice versa.

The AER does not consider that the application of its proposed DMEGCIS will negatively interact with the incentives created by either the EBSS or STPIS, or that these schemes will hinder the effectiveness of the DMEGCIS.

4.4.1 EBSS

Opex spent on non-network alternatives, including demand management expenditure, will be excluded from the actual and forecast opex amounts used to calculate carryover gains or losses under the EBSS. Therefore, DNSPs will not be penalised under the EBSS for increases in opex resulting from demand management expenditure not included in the distribution determination. Expenditure under the DMIA will also be excluded under the EBSS, and will not result in penalties for DNSPs under the EBSS.

4.4.2 STPIS

The AER is aware of the perceived disincentive to implement non-network alternatives and to implement cost-effective connection of embedded generators created by the reliability performance measures in its STPIS. This is because incentives to undertake demand side management or cost-effective connections of embedded generators may be diminished in the absence of an adjustment to targets or an exclusion to recognise a greater risk that targets will not be met.

However, the AER considers it important that the STPIS remains neutral in its application to network and non-network measures. The AER maintains that the risk associated with non-network alternatives is better placed with a DNSP than with its customers. Where aspects of performance are within a DNSP's control, the associated risk should also lie with the DNSP. The AER also considers that the DMIA provides appropriate incentives for research and innovation to address the possible risk of lower service performance due to non-network alternatives and cost-effective connection of embedded generators.

4.5 The willingness of the customer or end user to pay for increases in costs resulting from implementation of the scheme

In developing its proposed DMEGCIS, the AER has had regard to the extent to which customers are willing to pay for any increase in costs that may arise from the implementation of the scheme. The AER is not aware, at present, of any substantive reports or studies that have been undertaken on customer willingness to pay for demand management in the NEM.

The AER considers that its proposed DMEGCIS is likely to have a minimal impact on customer prices, and is appropriate at this time.[23] The DMEGCIS is expected to encourage DNSPs to undertake demand management initiatives which will provide long term efficiency gains to energy users.

[23] As information is gathered about customers' willingness to pay for increased demand management projects and programs, and further research and development is undertaken, the AER may consider broadening the scope of the DMIA in a future national scheme.

4.6 The effect of classification of distribution services, as determined in accordance with cl. 6.2.1 of the NER, on a DNSP's incentive to adopt or implement efficient embedded generator connections

Clause 6.6.3(b)(6) of the NER was included in the rule change implemented by the AEMC on 22 December 2011.

The AER has had regard to the extent to which the classification of distribution services affects a DNSP's incentive to adopt or implement efficient embedded generator connections.

An embedded generator is a generator that owns, operates or controls a generating unit, connected within a distribution network but without direct access to the transmission network.[24] More generally, it is associated with generators located with or near the electrical loads which it supplies, such as those operated by customers as an alternative to consumption from the DNSP's network.[25] The AEMC's rule change was implemented to address the following issues:

- a likely increase in the use of embedded generators as a result of government focus on climate change policies
- perceived imbalance between the incentives for network reliability and safety and the incentive to manage connection costs.[26]

The AER acknowledges that embedded generators contribute in the aim of deferring or reducing the need for traditional network augmentation in line with the aims of cl. 6.6.3 of the NER. The AER also acknowledges the advantages of conceptual certainty regarding the inclusion of embedded generators within the scope of the DMIA, and has addressed this in its amendment to the proposed DMEGCIS.

However, the AER considers that the existing DMIA criteria is broad enough to cover demand management projects or programs that seek to investigate means of efficient embedded generator connection. The AER acknowledges that the AEMC is also of the view that the existing framework is sufficient for DNSPs to propose innovative projects or programs that encompass demand management projects or programs generally or which promote innovation in the connection of embedded generators.[27]

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24 NER, ch.10.

25 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011 No.11*, December 2011, p. 19.

26 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011No 11*, December 2011, pp. 19 –21.

27 AEMC, Rule Determination: *National Electricity Amendment (Inclusion of embedded generation research into Demand Management Incentive Scheme) Rule 2011* No.11, December 2011, p. 22.

The AER also considers that the magnitude of the DMIA remains appropriate in the current circumstances to take into account the explicit inclusion of both demand management and connection of embedded generators.[28]

[28] The DMIA remains a secondary form of incentive for such projects or programs, with the primary source of recovery via forecast capex and opex as part of a distribution determination. However, the AER will continue to monitor practical experience with the DMIA.