Australian Energy Market Commission

RULE CHANGE

RULE DETERMINATION

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

Rule Proponent(s)

Ministerial Council on Energy

Commissioners

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22 December 2011

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Reference: ERC0128

Citation

AEMC 2011, Inclusion of Embedded Generation Research into Demand Management Incentive Scheme, Rule Determination, 22 December 2011 , Sydney

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.

Summary

On 4 November 2010, the Ministerial Council on Energy (MCE) made a request to the Australian Energy Market Commission (Commission) to make a Rule regarding the inclusion of embedded generation research into the Demand Management Incentive Scheme (DMIS) for Distribution Network Service Providers (DNSPs).

The Commission has determined it should make the Rule proposed by the MCE, with minor drafting amendments. The National Electricity Amendment (Inclusion of Embedded Generation Connection Research into Demand Management Incentive Scheme) Rule 2011 No 11 commences on 20 December 2011.

The Commission has concluded that DNSPs currently have weak incentives to minimise the connection costs of embedded generators due to their focus on ensuring connections meet the network security and reliability standards applicable to relevant DNSP. While maintaining these technical connection standards are important, if they are in excess of the necessary minimum requirements to maintain system security and reliability of supply, then the additional costs to meet those prescribed standards may discourage embedded generators from connecting to the distribution network.

To overcome this lack of incentive, the Commission has determined to make the Rule as proposed by the Rule Proponent, with minor drafting amendments. The Rule as made would require the Australian Energy Regulator (AER), in developing and implementing a DMIS, to consider improving the incentives for DNSPs to consider ways of more efficiently connecting embedded generators.

The Commission believes that expanding the scope of the DMIS will be the most practical and effective way of encouraging DNSPs to consider more innovative and cost effective ways of connecting embedded generators to distribution networks.

The Commission recognises that any benefits to be realised from the Rule will require DNSPs to secure additional funding under the scheme. However, the Commission has concluded that the existing DMIS framework is adequate with respect to funding in so far as DNSPs will continue to retain the discretion in proposing to the AER innovative projects that encompass demand management and non-network alternative issues more generally or promote innovation in connection of embedded generators.

The Commission also recognises that the likely success of the Rule as made will ultimately depend on the appetite of DNSPs to propose innovative projects that promote innovation in connection of embedded generators and the extent of the funding allowance the AER will set for this purpose. However, given the relatively minor cost of implementing the change, the Commission believes that even an incremental improvement in DNSP's incentives to focus on reducing connection costs of embedded generators has the potential to offer benefits to the electricity generation sector in meeting its environment obligations and network benefits in terms of reducing or delaying the need for expensive network augmentation costs.

Contents

1 Ministerial Council on Energy's Rule Change Request

1.1 The Rule Change Request

On 4 November 2010, the Ministerial Council on Energy (MCE) (Rule Proponent) made a request to the Australian Energy Market Commission (Commission) to make a Rule regarding the inclusion of embedded generation research into the Demand Management Incentive Scheme (DMIS) applied by the Australian Energy Regulator (AER) to Distribution Network Service Providers (DNSPs) as part of their electricity distribution price review decisions (Rule change request).[1]

The objective of the proposed Rule was to improve the incentives for DNSPs to pursue innovation in the connection of embedded generators to their network. The Rule Proponent submitted that the objective can be achieved by making a Rule 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.[2]

The Rule change request was submitted by the MCE in response to the Rule change recommendation made by the Commission in its Stage 2 Final Report on Review of Demand Side Participation (DSP) in the National Electricity Market (NEM) (Stage 2 DSP Review).

1.2 Rationale for the Rule Change Request

In the Rule change request, the Rule Proponent stated 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 prospect 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), and absent additional incentives, the existing economic framework may not encourage DNSPs to deliver cost efficient connections for embedded generators; and
- 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. This imbalance is driven by the discretion DNSPs are afforded with respect to prescribing the minimum technical standards

1 MCE Rule change request, Implementation of the Rule change proposal arising from the Australian Energy Market Commission Review of Demand-Side Participation in the National Electricity Market, 4 November 2010.

2 Ibid, p. 3.

for connecting to their network and their ability to require the connecting embedded generators to meet the cost of implementing those standards.[3]

1.3 Solution proposed in the Rule Change Request

The Rule Proponent proposed to resolve the lack of incentive of DNSPs to minimise the connection costs as described above by expanding the existing DMIS to also include innovation in connection of embedded generators. For the avoidance of doubt, the Rule Proponent stated that the intention of expanding the DMIS is not to provide support for all embedded generation connections, but rather, to specifically support and encourage innovation in connections. [4]

The Rule Proponent proposed that the AER be required, 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. [5]

The Rule Proponent also proposed 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. [6]

1.4 Relevant background

1.4.1 Overview of the DMIS

Under the current Chapter 6 economic regulatory framework of the National Electricity Rules (NER or Rules), 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. [7]

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;

3 Ibid, pp. 4-5.

4 Ibid, p. 5.

5 Ibid, Appendix A.

6 Ibid.

7 Clause 6.6.3(a) of the Rules.

- 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. [8]

To date, the AER has implemented a DMIS as part of the electricity distribution price review decisions 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 by jurisdictional regulators 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 electricity distribution price review decision and the expenditure is monitored and reported ex post against approval criteria established in the scheme. Any unspent or unapproved allowance is returned to customers in the following regulatory control period.

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.[9] 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. [10]

1.4.2 Stage 2 DSP Review recommendation

In November 2009, the Australian Energy Markets Commission (AEMC) provided its Final Report on Stage 2 DSP Review to the MCE.[11] 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.

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8 Clauses 6.6.3(b)(1) – (5) of the Rules.

9 See: AER, DMIS Jemena, CitiPower, Powercor, SP AusNet and United Energy 2011–15, April 2009, p. 3.

10 Ibid, pp. 3-4.

11 AEMC, Review of Demand-Side Participation in the National Electricity Market, Final Report, 27 November 2009, Sydney. The report is available at www.aemc.gov.au.

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.[12] 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. [13]

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. [14]

1.4.3 MCE response to Stage 2 DSP Review recommendation

In June 2010, the MCE released its response to the Stage 2 DSP Review recommendations.[15] 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 MCE submitted the Rule change request.

1.5 Commencement of Rule making process

On 23 June 2011, the Commission published a notice under section 95 of the National Electricity Law (NEL) advising of its intention to commence the Rule making process and the first round of consultation in respect of this Rule change request. A consultation paper prepared by AEMC staff identifying specific issues or questions for consultation was also published with the Rule change request. Submissions closed on 21 July 2011.

The Commission received six submissions on the Rule change request as part of the first round of consultation. They are available on the AEMC website.[16] A summary of the issues raised in submissions and the Commission's response to each issue is contained in Appendix A.

The MCE's Rule change request also included two other proposed Rules that were recommended in the Stage 2 DSP Review, as follows:

12 Ibid, p. vii.

13 Ibid, p. viii.

14 Ibid, p. 28.

15 Demand-Side Participation in the National Electricity Market, MCE Response to the Australian Energy Market Commission's Stage 2 Final Report, June 2010, available at: http://www.ret.gov.au/Documents/mce/_documents/2010%20bulletins/No.%20181%20-%20MCE%20Response%20-%20AEMC%20DSP%20Stage%202%20Report.pdf

16 www.aemc.gov.au.

- exclusion of non-network alternative expenditure from the operating expenditure that is subject to the Efficiency Benefit Sharing Scheme (EBSS) applicable to Transmission Network Service Providers (TNSP); 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. [17]

As the subject matter of each Rule change proposed is not inter-dependent, the proposed Rule changes were disaggregated into three separate projects to allow the Commission to more efficiently assess each proposed Rule on its merits within the Rule change process. This Rule change determination specifically deals with the MCE's Rule change request on expanding the DMIS 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.

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".

1.6 Publication of draft Rule determination and draft Rule

On 29 September 2011 the Commission published a notice under section 99 of the NEL and a draft Rule determination in relation to the Rule Change Request (draft Rule determination). The draft Rule determination included a draft Rule (draft Rule).

Submissions on the draft Rule determination closed on 10 November 2011. The Commission received seven submissions on the draft Rule determination. They are available on the AEMC website[18]. A summary of the issues raised in submissions, and the Commission's response to each issue, is contained in Appendix A.2.

17 MCE Rule change request, Implementation of the Rule change proposal arising from the Australian Energy Market Commission Review of Demand-Side Participation in the National Electricity Market, 4 November 2010, p. 3.

18 www.aemc.gov.au

2 Final Rule Determination

2.1 Commission's determination

In accordance with section 102 of the NEL the Commission has made this final Rule determination in relation to the Rule proposed by the Ministerial Council on Energy. In accordance with section 103 of the NEL the Commission has determined it should make the rule proposed by the Rule Proponent.

The Commission's reasons for making this final Rule determination are set out in section 3.1.

The *National Electricity Amendment (Inclusion of Embedded Generation Research into Demand Management Incentive Scheme) Rule 2011 No 11* (Rule as made) is published with this final Rule determination. The Rule as Made commences on 22 December 2011. The Rule as Made is the same as the Rule proposed by the Rule Proponent with minor amendments. Its key features are described in section 3.2.

2.2 Commission's considerations

In assessing the Rule Change Request the Commission considered:

- the Commission's powers under the NEL to make the Rule;
- the Rule Change Request;
- the fact that there is no relevant MCE Statement of Policy Principles[19];
- submissions received during first and second round of consultation; and
- the Commission's analysis as to the ways in which the Rule as made will or is likely to, contribute to the achievement of the National Electricity Objective (NEO).

2.3 Commission's power to make the Rule

The Commission is satisfied that the Rule as made falls within the subject matter about which the Commission may make Rules. The Rule as made falls within section 34 of the NEL as it relates to the regulation of the activities of persons (including Registered Participants) participating in the national electricity market or involved in the operation of the national electricity system.

Further, the Rule as made falls within the matters set out in schedule 1 to the NEL as it relates to:

19 Under section 33 of the NEL the AEMC must have regard to any relevant MCE statement of policy principles in making a Rule.

"25 The regulation of revenues earned or that may be earned by owners, controllers or operators of distribution systems from the provision by them of services that are the subject of a distribution determination;

...

26A Principles to be applied, and procedures to be followed, by the AER in exercising or performing an AER economic regulatory function or power relating to the making of a distribution determination;

...

26D The economic framework, mechanisms or methodologies to be applied or determined by the AER for the purposes of items 25 and 26 including (without limitation) the economic framework, mechanisms or methodologies to be applied or determined by the AER for the derivation of the revenue (whether maximum allowable revenue or otherwise) or prices to be applied by the AER in making a distribution determination; and

...

26G Incentives for regulated distribution system operators to make efficient operating and investment decisions including, where applicable, service performance incentive schemes."

These items are relevant to the Rule as made because the Rule as made relates to the regulation of revenues that can be earned by the DNSPs under the economic framework and the mechanisms or methodologies to be applied or determined by the AER in exercising or performing its economic regulatory function relating to the making of a distribution determination. The DMIS forms part of the distribution determination.

2.4 Rule making test

Under section 88(1) of the NEL the Commission may only make a Rule if it is satisfied that the Rule will, or is likely to, contribute to the achievement of the NEO. This is the decision making framework that the Commission must apply.

The NEO is set out in section 7 of the NEL 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.""

For this Rule change request, the Commission considers that the relevant aspect of the NEO is efficient investment in, and efficient operation of, electricity services with respect to price, quality, safety, reliability and security of supply. [20]

The Commission is satisfied that the Rule as made will, or is likely to, contribute to the achievement of the NEO because the Rule as made is likely to enhance efficient demand-side participation by promoting incentives for DNSPs to focus on improving connection costs and processes for embedded generators to meet the technical network connection requirements.

The Rule as made can help promote more efficient use of demand management and other non-network alternative solutions by balancing existing investment incentives for DNSPs with more opportunities for innovation in utilising embedded generators in managing electricity demand.

Under section 91(8) of the NEL, the Commission may only make a Rule that has effect with respect to an adoptive jurisdiction if satisfied that the Rule as made is compatible with the proper performance of Australian Energy Market Operator's (AEMO) declared network functions. The Rule as made does not impact on NER provisions relating to AEMOs's declared network functions.

2.5 Other requirements under the NEL

Under section 88B of the NEL, in addition to the NEO, the AEMC must take into account the revenue and pricing principles in making a Rule for, or with respect to, any matter or thing specified in items 15 to 24 and 25 to 26J in Schedule 1 of the NEL. The Commission has taken into account the revenue and pricing principles in making this Rule determination as the Rule as made relates to items 25, 26A, 26D and 26G of Schedule 1 of the NEL.

Relevant aspects of the revenue and pricing principles include:

- providing a reasonable opportunity to service providers to recover efficient costs and ensuring that prices should allow for a return commensurate with the regulatory and commercial risks in providing the service; and

- having regard to the economic costs and risks of the potential for under and over utilisation of a distribution system with which a regulated network service provider provides direct control network services.

The Commission considers that the Rule as made is consistent with the revenue and pricing principles as it promotes recovery of efficient costs by DNSPs in relation to their expenditure in innovative demand management projects under the DMIS. In turn, this is likely to encourage more efficient use of the distribution network without

20 Under section 88(2), for the purposes of section 88(1) the AEMC may give such weight to any aspect of the NEO as it considers appropriate in all the circumstances, having regard to any relevant MCE Statement of Policy Principles.

impacting a DNSP's ability to recover its efficient costs in undertaking innovative demand management projects with respect to connection of embedded generators.

3 Commission's reasons

The Commission has analysed the Rule Change Request and assessed the issues/propositions arising out of this Rule Change Request. For the reasons set out below, the Commission has determined that a Rule should be made. Its analysis of the Rule proposed by the Rule Proponent is also set out below.

3.1 Assessment of issues

Embedded generating units are defined in the Rules as generating units that are directly connected to the distribution network and do not have access to the transmission network. Embedded generation offers customers a choice of substituting their consumption of electricity from the network with their own generation. A customer would seek to use embedded generation in this way where the benefits of doing so were greater than the costs.

As identified by the Rule Proponent, the prospect of more customers using embedded generation as a substitute for electricity transported from the main network is likely to increase as a result of climate change policies. That is, as further incentives are provided by government (such as feed-in tariffs, solar rebates and other incentives under the small-scale renewable energy scheme and initiatives such as the Smart City, Smart Grid[21]), customers may seek to install more embedded generation units. In addition, as the cost of high carbon-emitting generation increases, the economics of some of the cleaner embedded generation options (such as photovoltaic generators) are likely to improve and result in further uptake of this demand-side participation option.

As part of the connection process, embedded generators are required to meet a number of technical standards relating to their connection to the network.[22] If the technical requirements and standards applied by DNSPs are in excess of the necessary minimum requirements to maintain system security and reliability of supply, then the additional costs to meet those prescribed standards may discourage embedded generators from connecting to the network.

The Rule Proponent stated that DNSPs currently have a strong incentive to focus on network reliability and safety and have weak incentives to seek out the most cost effective way of connecting embedded generators. The Rule Proponent's view is consistent with the Commission's findings from the Stage 2 DSP Review.

In the Stage 2 DSP Review, the Commission concluded that the framework for determining the minimum technical standards creates an impediment to efficient connection of embedded generators. This was a result of DNSPs having considerable

21 See: http://www.environment.gov.au/smartgrid/

22 The technical requirements for connecting generators are set out in Schedule 5.2 of the Rules. These arrangements apply to all generators with a capacity of 5 MW or greater. However, most embedded generators seeking connection are less than 5 MW. For these smaller generators, schedule 5.2 does not apply and jurisdictional standards apply instead.

discretion with regard to the minimum technical standards they apply to connections. In addition, the Commission found that DNSPs' did not have any incentive to minimise the costs of connecting embedded generators. The extent of flexibility, and the lack of incentive for DNSPs to minimise costs, therefore created uncertainty about the minimum technical standards that apply for embedded generators.

No evidence has been provided to the Commission in its consultation on this Rule change request that suggests its conclusions from the Stage 2 DSP Review are no longer relevant. Consequently, the Commission maintains its view that DNSPs focus on maintaining system security and reliability of supply means that they do not have any material incentive to minimise the connection costs of embedded generators that may seek connection to the DNSP's network.

To overcome this lack of incentive, the Commission has decided make a Rule to require the AER, in developing and implementing a DMIS, to consider improving the incentives for DNSPs to consider ways of more efficiently connecting embedded generators. The Commission considers that this potential for expanding the scope of the DMIS will be the most practical and effective way of encouraging DNSPs to consider more innovative and cost effective ways of connecting embedded generators to distribution networks.

3.2 Assessment of Rule

The Rule as made expands the objective of DMIS under clause 6.6.3(a) to include incentives for DNSPs to efficiently connect embedded generators. Furthermore, the Rule as made expands the existing factors that the AER is required to have regard to, in designing and implementing the DMIS under clause 6.6.3(b) to include as clause 6.6.3(b)(6) incentives for DNSPs to adopt or implement efficient embedded generator connections.

The Rule as made amends the title of DMIS in the heading of clause 6.6.3 to "Demand management and embedded generation incentive scheme". Some further consequential changes have been made 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) to amend references to the scheme as a result of the title change. These are reflected in the Rule as made.

The Rule as made retains the definition for DMIS as this definition is used in the transitional Chapter 6 provisions found in Chapter 11 of the Rules. Other minor drafting amendments reflect the Commission's current drafting approach, including the use of local definitions (being those definitions only used within a Chapter or part of the Rules).

3.3 Civil Penalties

The Rule as made does not amend any Rules that are currently classified as civil penalty provisions under the National Electricity (South Australia) Law or Regulations.

The Commission does not propose to recommend to the MCE that any of the amendments in the Rule as made be classified as civil penalty provisions.

4 Commission's assessment approach

This chapter describes the Commission's approach to assessing the Rule change request in accordance with the requirements set out in the NEL (and explained in Chapter 2).

In assessing this Rule change request, the Commission has considered the following issues:

- the potential benefits from increasing demand of embedded generation connections;
- the strength of existing incentives for DNSPs to pursue innovation in embedded generation connections; and
- potential implications for the level of funding if the DMIS is expanded to require consideration of innovation in embedded generation connections.

In assessing the Rule change request, the Commission has considered the extent to which the incentives for a DNSP to minimise the costs of connecting embedded generators are likely to be stronger under the Rule as made than under current arrangements, and whether the benefits of those strengthened incentives are likely to outweigh any additional funding requirements that may need to be borne by network users to pay for increases in costs resulting from implementation of the expanded scheme.

The Commission's analysis of these issues is provided in Chapter 5.

5 Analysis of issues

5.1 Rule Proponent's view

5.1.1 Increasing demand for embedded generation

The Rule Proponent stated 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 new lower carbon technologies to the network and increase focus on the ways that energy use can be managed.[23] As a result, the Rule Proponent was of the view that the prospect of more customers using embedded generation as a as a substitute for electricity sourced from the main network is also likely to increase.

The Rule Proponent noted that as incentives are provided by government such as feed-in tariffs and rebates, customers are likely to seek to install more embedded generation. It also noted that as the cost of high carbon emitting generation increases, the economics of some of the cleaner embedded generation options, such as co-generation plants, may improve. [24]

5.1.2 Strength of existing incentives for DNSPs to pursue innovation in connection of embedded generators

The Rule Proponent stated 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.[25] Consistent with the AEMC's Stage 2 DSP Review finding, the Rule Proponent noted this imbalance is currently driven by the discretion DNSPs are afforded with respect to prescribing the minimum technical standards for connections to their network and their ability to require the connecting embedded generators to meet the cost of implementing those standards.[26]

The Rule Proponent further stated that that a mechanism to address the particular lack of incentive for DNSPs in providing low cost embedded generation connections was to expand the existing DMIS to include projects that explore innovation in connection of embedded generators. [27]

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23 MCE Rule change request, Implementation of the Rule change proposal arising from the Australian Energy Market Commission Review of Demand-Side Participation in the National Electricity Market, p. 4.

24 Ibid.

25 Ibid.

26 Ibid.

27 Ibid.

5.1.3 Implications for funding under DMIS

The Rule Proponent did not specifically identify in its Rule change request whether the proposed Rule would have any implications for additional funding under the existing DMIS.

5.1.4 Implementation and administrative costs

The Rule Proponent stated that its proposed Rule is not likely to impose any significant implementation costs as it is only an incremental change to the existing arrangements and not likely to require substantial changes to existing processes and practices.[28] However, it recognised that there may be some administrative burden on the AER to review proposals from the DNSPs who seek to take up the incentives provided by the new arrangements.[29]

5.2 Stakeholder views

5.2.1 First round of consultation

The Commission received six submissions in response to the consultation paper, which were from NovaPower Pty Ltd, Jemena Electricity Networks (Jemena), Ergon Energy Corporation (Ergon Energy), Ausgrid, Essential Energy and Origin Energy. Their views in relation to the issues considered by the Commission are summarised below.

Increasing demand for embedded generation

None of the submissions directly responded to the Rule Proponent's view that demand for embedded generation is likely to increase due to climate change policies. However, Ergon Energy stated that its demand management strategy is to deliver customers the reliability and security of supply they expect at the lowest cost by enabling customers to participate in non-network alternative solutions. Ergon Energy highlighted that of its $40.15 million allocated to demand management programs for 2011-12, $1.5 million relates to embedded generation activities.[30]

NovaPower stated that the drive for lower carbon technologies would increase if more gas fired embedded generators were able to connect to the distribution networks as they would be located close to the load centres and distributed across the state, thus reducing the need for capital intensive transmission and distribution asset argumentation. [31]

28 Ibid, p. 6

29 Ibid.

30 Ergon Energy Corporation submission, p. 1.

31 NovaPower submission, p. 2.

Strength of existing incentives for DNSPs to pursue innovation in connection of embedded generators

Submissions from some stakeholders shared the Rule Proponent's view that DNSPs currently have very little incentive to focus on exploring embedded generation options for managing demand due to its preference for more traditional network solutions. For example, Origin Energy and NovaPower stated that the proposed Rule change will help reduce some of the difficulties currently being experienced by embedded generators in negotiating connections with DNSPs. [32]

Origin Energy also noted that the inherent imbalance is a result of the degree of latitude DNSPs have over the technical standards specifications, which often proves challenging for prospective generators.[33] NovaPower stated that under the current Rules, the DNSPs favour more expensive capital investment projects and see alternatives such as demand-side management and embedded generators as stop gap solutions for a maximum of five years. [34]

On the other hand, DNSPs such as Jemena, Essential Energy and Ausgrid noted that complex technical connection requirements for embedded generation currently exist because of DNSPs' focus on network safety, reliability and quality of supply considerations.[35]

Jemena stated that the differences in connection standards adopted by different DNSPs are influenced, in part, by different risk approaches. It stated that there are opportunities to standardise connection standards across DNSPs and noted that the Demand Management & Embedded Generation Committee of the Energy Networks Association is in the process of developing embedded generation connection guidelines that will assist in standardisation across Australia. [36]

Ergon Energy stated that internal systems and processes within DNSPs to manage embedded generation to provide network benefits are not well developed. Ergon Energy also stated that current connection costs for embedded generators are reflective of the work necessary to connect embedded generators to the network while meeting technical requirements for power quality, reliability and safety. [37]

Despite comments from DNSPs that their incentives for connection requirements are driven by the need for maintaining network reliability and ensuring quality of supply, they nonetheless expressed support for the proposed Rule change to provide additional incentives to encourage DNSPs to conduct trials aimed at lowering connection costs of embedded generators.

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32 Origin Energy submission, p. 1 and NovaPower Pty Ltd submission, p. 1.

33 Origin Energy submission, p. 1.

34 NovaPower Pty Ltd submission, p. 1.

35 Jemena Electricity Networks submission, p. 2; Essential Energy submission, p. 2; and Ausgrid submission, p. 2.

36 Jemena Electricity Networks submission, p. 2.

37 Ergon Energy Corporation submission, pp 2-3.

Ausgrid was the only DNSP that considered that the Rule change was not necessary. Ausgrid is of the view that the existing DMIS already allows for incentives for innovation in connection of embedded generators[38]. Ausgrid stated that while the cost and complexity of connection remains an impediment to wider adoption of embedded generation, projects that trial innovative ways to bring down that cost and complexity would be legitimate activities under the current DMIA criteria applied by the AER. [39]

Implications for funding under DMIS

While submissions from stakeholders did not suggest that the Rule change should make any explicit provisions for additional funding allowances for innovation in embedded generation connections, a number of submissions did express the view that unless additional funding becomes available through DMIA from the AER, it is unlikely that the proposed Rule change will provide any material benefits as anticipated.

Essential Energy stated that if the scope of DMIS is expanded to include embedded generation initiatives that have partial or no demand management impact, then this would result in the need for increased funding in order to maintain existing levels of demand management innovation investment.[40]

Ergon Energy stated that additional funding from DMIA will be necessary to undertake significant innovative trial projects into embedded generation connections, particularly for renewable energy technology such as hydro, wind, photovoltaic and energy storage systems.[41] Similarly, Origin Energy also noted that it will be important that funding under the DMIS is sufficient to provide enough of an incentive for DNSPs to investigate the optimal connection solutions. [42]

Though Ausgrid believes that the proposed Rule change is not necessary, it stated that the current levels of DMIA are lower than required to allow significant innovation.[43] It stated that there is competition for DMIA funding amongst projects and preference is given to projects that are likely to provide the best prospect for delivering longer term benefits at the lowest implementation costs. Ausgrid further stated that funding of actual projects is more likely to change the DNSP's incentive to pursue riskier and more innovative trial projects and only an increase in the level of DMIA will improve the prospects for more innovative connection projects as well as a wider range of demand management of other types. [44]

38 Ausgrid submission, p. 1.

39 Ibid.

40 Essential Energy submission, p. 2.

41 Ergon Energy submission, p. 2.

42 Origin Energy submission, p. 1.

43 Ausgrid submission, p. 2.

44 Ibid.

Implementation and administrative costs

Stakeholders did not identify any material implementation and administrative costs arising out of the Rule change request.

As noted in section 5.2.3 above, a number of DNSPs noted that the proposed Rule change will result in increased funding requirement which will mean additional costs to network customers. However, it was considered that the resulting financial impact on customers will be minimal given that the current proportion of DMIS to the overall revenue allowances determined by the AER.[45] For example, Essential Energy stated that its DMIS cost to customers[46] was less than $1 per customer, and Jemena stated its DMIS allowance was $200,000 pa for the 2011-15 period. [47]

5.2.2 Second round of consultation

The AEMC received six submissions in response to its publication of the draft Rule determination. Responses were received from the AER, Ethnic Communities' Council of NSW Inc (ECC), EnerNOC, Moreland Energy Foundation Ltd (MEFL), Origin Energy and Total Environment Centre (TEC). Their views in relation to the issues considered by the Commission are summarised below.

Increasing demand for embedded generation

None of the stakeholders responding to the draft Rule determination commented on the Rule proponent's view that it is likely that there will be a growth in embedded generation.

Strength of existing incentives for DNSPs to pursue innovation in connection of embedded generators

Similar to responses to the consultation paper, responses to the draft Rule determination indicated that currently DNSPs have very little incentive to focus on exploring embedded generation options. EnerNOC indicates that DNSPs, who feature prominently in the registration process of embedded generators, traditionally take a "dim view" of embedded generation of almost any size, particularly if the generator is to be synchronised with the grid.[48] MEFL states that greater uptake of distributed generation is currently being hampered by issues relation to the connection to the distribution networks. [49] TEC remains concerned that demand side solutions continue

45 Ergon Energy submission, p. 2; Essential Energy submission, p. 2; Ausgrid submission, p. 3.

46 Essential Energy submission, p. 2.

47 Jemena Electricity Networks submission, p. 4.

48 EnerNOC submission, p 1

49 MEFL submission, Attachment 1, p 1.

to be prejudiced by an in-built preference for supply-side solutions.[50] The ECC notes that the minor draft amendments would overcome the existing lack of incentives.[51]

Implications for funding under DMIS

The AER noted stakeholders' comments on the level of funding in the consultation paper. The AER intends to continue to monitor practical experience with the application of the scheme considering whether the level of funding is an issue.[52]EnerNOC considers that DMIS could be better targeted such that the existing DMIS allocation could remain and an additional sum of equivalent value be included for embedded generation projects.[53]

Implementation and administrative costs

Stakeholders who responded to the draft Rule determination did not comment on implementation or administrative costs.

5.3 Commission's analysis

5.3.1 Increasing demand for embedded generation

As noted in the draft Rule determination the term "embedded generator" is often used to broadly describe any generator which is not located centrally in a traditional power network system. The NER defines an embedded generating unit (embedded generator) as a "generating unit connected within a distribution network and not having direct access to the transmission network". This definition implies that embedded generators are 'embedded' with or near the loads supplied by the electrical system.

Customers can use embedded generators as a form of demand-side participation and actively participate by substituting their consumption of electricity from the network with their own generation. Customers will seek to use embedded generation where the benefits of doing so are greater than the costs.

The Commission accepts that the prospect of more customers using embedded generation as a substitute for electricity generated from the main network is likely to increase as a result of the government's focus (both state and federal levels) on climate change policies. This view is consistent with the Commission's findings from the Stage 2 DSP Review.[54]

50 TEC submission, p 2.

51 ECC submission

52 AER submission

53 EnerNOC submission, p 2.

54 AEMC, Review of Demand-Side Participation in the National Electricity Market, Final Report, 27 November 2009, p. 42.

Already a number of government incentives such as feed-in tariffs, solar rebates and other incentives under the small-scale renewable energy scheme, and initiatives such as the Smart City, Smart Grid are driving up customer interest in various embedded generation options. In addition, as the cost of high carbon-emitting generation increases due to the cost of complying with environmental obligations, the economics of some of the other cleaner embedded generation options (such as photovoltaic generators) should be improving and drive even more interest and uptake from customers.

In addition to providing energy saving solutions to customers and potential benefits to the electricity generation sector in meeting its environment obligations, embedded generation also offers the potential for various network benefits such as improving system reliability and reducing or delaying the need for expensive network augmentation costs due to generation being located close to loads. Embedded generation also offers network benefits in terms of reducing network losses that normally result from transporting electricity across the transmission and distribution network.

The Commission is of the view that any potential barriers to the efficient connection of embedded generators within the existing Rules should be addressed to ensure that network customers and network businesses can fully realise the potential environmental cost savings and network benefits.

5.3.2 Strength of incentives for DNSPs to pursue innovation in connection of embedded generators

The Rule Proponent stated 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 Rule Proponent suggested that this imbalance was due to 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.

The Commission recognises that as part of the connection process, embedded generators must meet a number of technical standards relating to the connection requirements of the network in order to ensure that network security and reliability standards applicable to a particular DNSP are met to the DNSP's satisfaction. However, if the technical requirements and standards applied by DNSPs are in excess of the necessary minimum requirements, the additional costs to meet those prescribed standards may discourage embedded generation connecting to the network.

As noted by Jemena, while the work of Energy Network Association's Demand Management & Embedded Generation Committee in developing standardised embedded generation connection guidelines is to be welcomed, it does not improve the incentives of DNSPs to reduce the connection costs or innovate in the connection of embedded generators. Given the potential benefits embedded generators can offer, the Commission believes that the existing incentives could be strengthened for DNSPs to

connect embedded generators more efficiently. Additional financial incentives under the DMIS will be complementary to any ongoing work that seeks to improve the standardisation of connection requirements of embedded generations.

The Commission notes EnerNOC's concern that combining embedded generation and demand management via the DMIS will encourage DNSPs to consider these to be the same thing, and therefore dilute their research efforts. The Rule as made addresses this concern at a conceptual level by changing the name of the DMIS to the "Demand management and embedded generation connection incentive scheme" making it clear that the scheme has been expanded to cover both demand management and embedded generation connections.

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5.3.3 Implications for funding under DMIS

Related to the concern raised by EnerNOC, one of the key issues raised by stakeholders on the Rule change request was implications for the level of DMIA the AER is likely to approve for any particular DNSP under the scheme.

The Commission agrees with stakeholders that any material benefits to be realised from the Rule change will require DNSPs to secure additional funding under the DMIA as determined by the AER. However, the Commission believes that the decision in respect of the appropriate level of funding for innovation in embedded generation projects should remain with the AER.

In the Commission's view, it would not be appropriate to mandate any increased funding specific to innovation in connection of embedded generation projects in the Rules. The existing Rules are not prescriptive on how the DMIS should be implemented other than to specify a number of objectives that the AER must have regard to in designing and implementing a DMIS for a DNSP. The current DMIS framework requires that the AER must have regard to:

- the need to ensure that benefits to customers 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 to which the DNSP is able to offer efficient pricing structures;
- the possible interaction between the DMIS and other incentive schemes; and
- the willingness of customers to pay for increases in costs resulting from implementation of the scheme.

The Rule as made will simply add an additional objective of incentivising DNSPs to undertake innovation in embedded generation connections as part of the overall scheme. Consequently, the AER will need to balance these objectives in deciding the

overall level of allowance that it will approve for a particular DNSP and the types of projects it will accept for funding eligibility under the scheme.

Furthermore, the Commission notes that, under the existing DMIS framework, the AER does not compel a DNSP to increase or spend their full DMIA on non-network alternative projects. In keeping with this flexible framework, the Commission does not consider it necessary that the Rules should compel DNSPs to undertake riskier and innovative trial projects in embedded generation connections if they do not see any potential long term value.

The Commission considers that the existing DMIS framework is adequate in allowing the DNSPs to secure any additional funding approval from the AER. As is the case under the existing scheme arrangements, DNSPs can continue to have the discretion in proposing to the AER innovative projects that encompass demand management and non-network alternative issues more generally or promote innovation in connection of embedded generators. If there are competing projects then ideally the projects that are likely to deliver the greatest network benefits should be given funding preference. Both the DNSPs and the AER are best placed to assess the merits of, and the value to network customers, of potential demand management and innovation projects at the time of the electricity distribution price review decisions. Any other arrangement would not necessarily be in the long term interest of network customers who must ultimately pay for the trial projects approved by the AER under the scheme.

5.3.4 Implementation and administrative costs

In making this Rule determination, the Commission has considered whether the Rule as made is likely to impose any significant costs on DNSPs, network customers, or increase any administrative costs on the AER, having regard to the potential benefits of the Rule as made.

The Commission notes that the levels of DMIA approved by the AER to date represent only a very small portion of DNSP's annual revenue requirements. For example, the DMIA approved for Energex and Ergon Energy for the 2010-11 to 2014-15 regulatory period was capped at $5 million.[55] Given the magnitude of the existing allowances for DMIS, the Commission accepts views put by DNSPs that that the financial impact on network customers is likely to be negligible under an expanded DMIS to accommodate projects targeted at innovation in embedded generation connections.

On balance, the Commission considers the implementation and administrative costs likely to result from the Rule as made to be minimal as it is only an incremental change to the existing scheme. The AER and the DNSPs are already incurring the administrative costs of implementing and complying with the existing DMIS.

55 AER, Qld Distribution Determination 2010-11 to 2014-15, Final Decision, May 2010, pp.293-294.

5.4 Conclusion

Having considered responses to the Rule Proponent's view and draft Rule determination as well as its own findings from the Stage 2 DSP review, the Commission has concluded that embedded generation offers an important form of demand-side participation measure.

Responses to the draft Rule determination did not contradict the Commission's finding that DNSPs currently have weak incentives to minimise the connection costs of embedded generators due to their focus on ensuring connections meet the network security and reliability standards applicable to a particular DNSP. While maintaining these technical connection standards are important, if they are in excess of the necessary minimum requirements to maintain system security and reliability of supply, then the additional costs to meet those prescribed standards may discourage embedded generation connecting to the distribution network.

Therefore to overcome this lack of incentive, the Commission considers that the Rule proposed by the Rule proponent should be made with minor drafting amendments. The Rule should require the AER, in developing and implementing a DMIS, to consider improving the incentives for DNSPs to consider ways of more efficiently connecting embedded generators.

Expanding the scope of the DMIS will be the most practical and effective way of encouraging DNSPs to consider more innovative and cost effective ways of connecting embedded generators to distribution networks.

Any benefits to be realised from the Rule will require DNSPs to secure additional funding under their DMIA. The Commission considers that the existing DMIS framework provides an adequate balance with respect to funding in so far as DNSPs will continue to retain the discretion in proposing to the AER innovative projects that encompass demand management and non-network alternative issues more generally or promote innovation in connection of embedded generators.

The Commission considers that both the DNSPs and the AER are best placed to assess the merits of, and the value to network customers, of potential demand management and innovation projects at the time of the revenue determinations.

The likely success of this Rule will ultimately depend on the appetite of DNSPs to propose innovative projects that promote innovation in connection of embedded generators and the extent of the DMIA the AER will set for this purpose, having regard to a number of objectives, including but not limited to the willingness of network customers to pay for increases in costs resulting from implementation of the scheme. However, given the relatively minor cost of implementing the change, even an incremental improvement in DNSP's incentives to focus on reducing connection costs of embedded generators has the potential to offer benefits to the electricity generation sector in meeting its environment obligations and network benefits in terms of reducing or delaying the need for expensive network augmentation costs.

Abbreviations

AEMC	Australian Energy Markets Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
DMIA	Demand Management Innovation Allowance
DMIS	Demand Management Incentive Scheme
DNSP	Distribution Network Service Provider
DSP	Demand Side Participation
EBSS	Efficiency Benefit Sharing Scheme
ECC	Ethnic Communities' Council of NSW Inc
MCE	Ministerial Council on Energy
MEFL	Moreland Energy Foundation Ltd
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
TEC	Total Environment Centre
TNSP	Transmission Network Service Provider
TUOS	Transmission Use of System

A Summary of issues raised in submissions

A.1 First round of consultation

Stakeholder	Issue	AEMC response
NovaPower Pty Ltd	NovaPower stated that it has found it difficult in making headway with DNSPs in developing projects to provide network support close to load centres NovaPower claims that DNSPs are more focused on demand side management projects and traditional network augmentation solutions rather than encouraging embedded generators to support the network. NovaPower also claims that, currently, DNSPs see demand management and embedded generators as "stop gap" solutions for a maximum of five years.	NovaPower's comments are noted. The Commission's consideration of the benefits of increasing use of embedded generation as a viable non-network alternative option is provided and the existing incentives for DNSPs to focus on efficient connection of embedded generators is provided in section 5.3.1 and section 5.3.2, respectively. The Commission has concluded that that expanding the scope of the DMIS will be the most practical and effective way of encouraging DNSPs to consider more innovative and cost effective ways of connecting embedded generators to distribution networks.
Jemena Electricity Networks	Jemena stated that the discretion DNSPs currently have for developing connection standards are there to ensure reliability and safety are not adversely affected. Jemena also stated that there are opportunities to standardise connection standards across DNSPs. It noted that the Demand Management & Embedded Generation Committee of the Energy Networks Association is in the process of developing embedded generation connection guidelines that will assist in standardisation across Australia.	The Commission considers that maintaining technical connection standards for reliability and security of supply is an important aspect of maintaining a distribution network system. However, if the technical connection standards are in excess of the necessary minimum requirements to maintain system security and reliability of supply, then the additional costs to meet those prescribed standards may discourage embedded generation connecting to the distribution network.

Stakeholder	Issue	AEMC response
	Jemena also stated that the Rule should permit some of the DMIA to be directed towards trials that are of "research and development "in nature without certainty of economic payback.	While the work of Energy Network Association's Demand Management & Embedded Generation Committee in developing standardised embedded generation connection guidelines is to be welcomed, it does not improve the incentives of DNSPs to reduce the connection costs or innovate in the connection of embedded generators. See section 5.3.2 for further discussion. The Commission considers that the existing DMIS framework is adequate in allowing the DNSPs to secure any additional funding approval from the AER. See discussion in section 5.3.3.
Ergon Energy Corporation	Ergon Energy noted that currently there are a number of technical issues with parallel generation that need to be resolved in order to ensure network reliability and quality of supply. In addition, Ergon Energy stated that internal systems and processes within DNSPs to manage embedded generation to provide network benefits are not well developed. Ergon Energy further stated that current connection costs for embedded generators are reflective of the work necessary to connect embedded generators to the network while meeting technical requirements for power quality, reliability and safety. Ergon Energy was of the view that additional funding from DMIA will be necessary to undertake significant innovative trial projects into embedded generation connections, particularly for renewable energy technology such as hydro, wind, photovoltaic and energy storage systems.	Ergon Energy's comments are noted. The various technical issues with embedded generation connections as described by Ergon Energy further highlights the need for DNSPs to be incentivised to focus on exploring these issues and improving the connection costs so that the benefits of embedded generation can be fully realised by network customers as well as the DNSPs. See section 5.3.2 for further discussion. The Commission has recognised that for DNSPs to focus on innovation in connections of embedded generators, the AER will need to approve additional funding under the DMIA. However, the Commission considers that the existing DMIS framework is adequate in allowing the DNSPs to secure any additional funding approval from the AER. See discussion in section 5.3.3. The financial impact of the Rule change on

Stakeholder	Issue	AEMC response
	However, it believed that as the current DMIA represents only a very small portion of a DNSP's annual revenue requirement, any increase in prices as a result of increases in the DMIA are likely to be minimal.	network customers is considered in section 5.3.4.
Ausgrid	Ausgrid was the only stakeholder who made a submission that did not support the proposed Rule change. It believed that Rule change was not necessary because the existing DMIS already allows for incentives for innovation in connection of embedded generators. Ausgrid stated that it has already commenced a project for innovative connection under the current DMIS framework (connecting embedded generators in the Sydney CBD to manage peak demand). Ausgrid stated that while the cost and complexity of connection remains an impediment to wider adoption of embedded generation, projects that trial innovative ways to bring down that cost and complexity would be legitimate activities under the current DMIA criteria applied by the AER. Though Ausgrid believed the proposed Rule change is not necessary, it stated that the current levels of DMIA are lower than required to allow significant innovation. It stated that there is competition for DMIA funding amongst projects and preference is given to projects that are likely to provide the best prospect for delivering longer term benefits at the lowest implementation costs. Ausgrid further stated that funding of actual projects is more likely to change the DNSP's incentive to pursue riskier and more innovative trial	The Commission has considered the potential benefits of embedded generation in section 5.3.1 and believes that additional incentives are needed for DNSPs to focus on innovation in the connection of embedded generators through the DMIS. The draft Rule does not compel DNSPs to undertake riskier and innovative trial projects if they do not see any potential long term value. The draft Rule will simply add an additional objective of incentivising DNSPs to undertake innovation in embedded generation connections as part of the overall scheme. Consequently, the AER will need to balance these objectives in deciding the overall level of allowance that it will approve for a particular DNSP and the types of projects it will accept for funding eligibility under the scheme. Furthermore, the draft Rule does not tamper with the existing DMIS framework in so far as DNSPs will continue to retain the discretion in proposing to the AER innovative projects that encompass demand management issues more generally or promote innovation in connection of embedded generators. For further discussion, see section 5.3.3. The financial impact of the Rule change on

Stakeholder	Issue	AEMC response
	projects and only an increase in the level of DMIA will improve the prospects for more innovative connection projects as well as a wider range of demand management of other types. Additionally, Ausgrid noted that while additional DMIA funding would increase electricity prices in the short term, the current cost impost is very low and any foreseeable increase would have no material impact.	network customers is considered in section 5.3.4.
Essential Energy	Essential Energy stated that the proposed Rule change would encourage DNSPs to undertake trials aimed at better understanding the impact of embedded generation on the network and its potential for network support. It also believed that improved knowledge of issues associated with embedded generation will provide the basis for facilitating embedded generation without compromising fundamental network stability and supply quality considerations. Essential Energy also stated that if the scope of DMIS is expanded to include embedded generation initiatives that have partial or no demand management impact, then this would result in the need for increased funding in order to maintain existing levels of demand management innovation investment. However, it believed that given that existing DMIS cost is less than $1 per customer, the financial impact on customers would not be material.	Essential Energy's comments are noted. The Commission has considered the potential benefits of embedded generation in section 5.3.1 and believes that additional incentives are needed for DNSPs to focus on innovation in the connection of embedded generators through the DMIS. The Commission has recognised that for DNSPs to focus on innovation in connections of embedded generators, the AER will need to approve additional funding under the DMIA. However, the Commission considers that the existing DMIS framework is adequate in allowing the DNSPs to secure any additional funding approval from the AER. See discussion in section 5.3.3.The financial impact of the Rule change on network customers is considered in section 5.3.4.

Stakeholder	Issue	AEMC response
Origin Energy	Origin Energy stated that the proposed Rule will help reduce some of the difficulties currently being experienced by potential embedded generators in negotiating connections with DNSPs. Origin Energy also noted that the inherent imbalance in connection negotiations is a result of the degree of latitude DNSPs have over the technical standards specifications, which often proves challenging for prospective generators. Origin Energy also highlighted that it will be important that funding under the DMIS is sufficient to provide enough of an incentive for DNSPs to investigate the optimal connection solution.	Origin Energy's comments are noted. The Commission's consideration of DNSP's existing incentives to minimise connections costs of embedded generation is discussed in section 5.3.2 and the additional DMIA funding issue is discussed in section 5.3.3.

A.2 Second round of consultation

Stakeholder	Issue	AEMC response
Australian Energy Regulator	The AER states the rule change will make it explicit that any research and development projects in this regard will be recoverable under the DMIS, which the AER already considers to be with the DMIS's scope	Noted. The Commission's rule as made addresses this issue.
Australian Energy Regulator	The AER intends to continue to monitor practical experience with the application of the scheme in considering this issues. To this end, the AER	Noted. The rule as made does not seek to define or establish a specific level of funding.

Stakeholder	Issue	AEMC response
	supports the AEMC's approach to permit evolution in the AER's considerations on the application of the scheme, by not being prescriptive on the issue of funding as part of this rule change.	
Ethinic Communities' Council of NSW Inc	The ECC notes the rule change would encourage the DNSPs to research and develop innovative technology and work with consumers to install the technology. The DNSPs could develop the technology so that once the storage capacity on site was replete then the energy captured by the embedded generator would feed into the main network.	Noted.
EnerNOC	EnerNOC applauds the AEMC for seeking to encourage research into embedded generation, however they are concerned: 1. That combining DG and Demand Management via the DMIS will encourage Networks to considered these to be the same thing, and therefore dilute their research efforts accordingly, 2. This will diminish the scarce funding available through the DMIS for Demand Management, which is what DMIS was primarily targeted to do, 3. That the amount for this research will itself be too little an amount for any meaningful research and outcomes in the area of embedded generation, and	Noted. The rules currently do not specify an amount for the DMIS. The rule as made does not propose an amount for the new innovation scheme including embedded generation research. This means that combining DMIS and embedded generation should not dilute the incentive for businesses to put forward projects. As noted above the Commission has recognised that for DNSPs to focus on innovation in connections of embedded generators, the AER will need to approve additional funding under the DMIA. However, the Commission considers that the existing DMIS framework is adequate in allowing the DNSPs to secure any additional funding approval from the AER. The Commission has concluded that expanding the scope of the DMIS will be the most practical and effective way of encouraging DNSPs to

Stakeholder	Issue	AEMC response
	4. The fees provided to the DNSPs via DMIS for DG connection innovation will fail to resolve the main issues associated with implementing and registering grid connected DGs.	consider more innovative and cost effective ways of connecting embedded generators to distribution networks.
EnerNOC	EnerNOC would like to see the AER test the outcome from the DMIS allocations such that a DNSP cannot automatically expect to gain their DMIS allocation unless they can prove that the funds were spent appropriately in the previous price reset period. It has come to our attention that some DNSPs see special funding targeted at demand management as a way of increasing staff numbers and not necessarily achieving the most desirable/economic outcome. Clearly DNSPs need to be benchmarked to ensure efficient use of funding hence reporting on the MW under contract per equivalent full-time employee would be appropriate.	This is because it is the commissions view that the level of funding should be a matter for the AER and DNSPs to determine and is inappropriate to include in the rules. This also means that the rules provides the flexibility in terms of funding to be adjusted by the AER to provide adequate funding despite the inclusion of embedded generation research.
Moreland Energy Foundation Ltd	We agree with the comment in the draft Rule determination that "the likely success of the draft Rule will ultimately depend on the appetite of DNSPs to propose innovative projects that promote innovation in connection of embedded generators and the extent of the funding allowance the AER will set for this purpose".	Noted
Moreland Energy Foundation Ltd	The existence of the Demand Management Incentive Scheme has not to date overcome obstacles to greater uptake of demand-side alternatives to expensive supply-side capital expenditure in the distribution network. Its	Noted. The Commission considers that the issues raised are beyond the scope of matters that are being addressed by this particular Rule change. As noted by the TEC, some of the issues it has raised could be potentially addressed as part of the

Stakeholder	Issue	AEMC response
	extension through this draft Rule is likewise unlikely to overcome the systemic obstacles to connection of embedded generators.	AEMC's Power of Choice Review.
Origin	Origin supports the AEMC's draft decision to improve the incentives for the connection of embedded generators through their inclusion in the DMIS. This should help incentivise distribution businesses to seek more innovative and cost effective ways of connecting embedded generators.	Noted
Total Environment Centre	TEC therefore supports this rule change, which seeks to improve the incentives for DNSPs to consider improved methods for the connection of embedded generators	Noted
Total Environment Centre	Despite stating its support for this rule change, TEC continues to doubt that the rule change will result in any noticeable increase in DSP. The three small changes to the rules currently being undertaken by the AEMC as a result of DSP2, including this one, address particular and minor barriers to demand side participation in the NEM. As such, these rule changes should not be regarded as a comprehensive response to the more substantive barriers that exist.	The Commission has concluded that expanding the scope of the DMIS will be the most practical and effective way of encouraging DNSPs to consider more innovative and cost effective ways of connecting embedded generators to distribution networks. The Commission recognises that the benefits for the promotion and uptake of non-network alternative investment brought about by the rule are likely to be small.