



Australian Energy Market Commission

## CONSULTATION PAPER

National Electricity Amendment (Network Support Payments and Avoided TUoS for Embedded Generators) Rule 2011

23 June 2011

**RULE  
CHANGE**

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## **About the AEMC**

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

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# 1 Introduction

The cost of providing the electricity transmission network is recovered from Transmission Network Service Providers' (TNSPs) customers and is ultimately reflected in the bills end use customers pay.

Generators who connect to the distribution network (embedded generators) have the potential to reduce the amount of transmission that is required to be built. This is because the embedded generator may reduce the demand level of the distribution network that drives the need for transmission.

There are currently two payments that embedded generators can receive to reflect this benefit they have to the market. One is a network support payment directly from a TNSP and the other is an "avoided" Transmission Use of System (TUoS) payment from the Distribution Network Service Provider (DNSP).

This Rule change seeks to ensure that embedded generators are not over compensated, and therefore consumers overcharged, for the service they provide. That is, to clarify the arrangements for avoided TUoS payments for embedded generators that already receive a network support payment from a TNSP.

The Ministerial Council on Energy (MCE) (Proponent) submitted this Rule change request to the Australian Energy Market Commission (AEMC or Commission) on 4 November 2010 after considering the recommended Rule change proposals arising from the AEMC's Stage 2 Review of Demand Side Participation (DSP) in the National Electricity Market (NEM).

The MCE's original Rule change request sought to initiate three separate Rule changes related to DSP. However, as the subject matter of each proposed Rule is not related or inter-dependent, the proposed Rule change has been disaggregated into three separate projects to allow the AEMC to more efficiently assess each Rule on its merits within the Rule change process. This consultation relates to the third part of the original Rule change request.

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

This paper:

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

The Rule change proposal is likely to be of interest to:

- Embedded generators, particularly those who currently receive a network support payment and an avoided TUoS payment;
- TNSPs as the parties who pay network support payments to embedded generators;
- DNSPs as the parties who pay avoided TUoS payments to embedded generators; and
- Load customers, including both scheduled and non-scheduled load customers as the parties liable for network charges.

## 2 Background

This chapter provides the background to the Network Support Payments and Avoided TUoS for Embedded Generators Rule change request. It provides an overview of the current avoided TUoS arrangements and network support payments and also a summary of AEMC's Stage 2 Final Report on Review of Demand Side Participation in the NEM (Stage 2 DSP Review), which recommended the proposed Rule change to the MCE.

### 2.1 Overview of the current avoided TUoS arrangements and network support payments

This section provides a brief introduction to avoided TUoS payments and network support payments.

#### 2.1.1 What is an avoided TUoS payment?

The National Electricity Rules (the 'Rules') set out the principles for how TNSPs collect their annual regulated revenue entitlement. This is via a set of prescribed transmission services charges which are charged to participants at their connection point. This includes charging distribution networks where they withdraw from the transmission network.

Prescribed TUoS is one element of prescribed transmission services and the cost recovery for this is divided into locational and non-locational components. The locational component seeks to reflect the impact that the peak demand at a connection point has on transmission investment. The Rules achieve this by requiring the locational component of prescribed TUoS to be based on levels of demand at times of the greatest utilisation of the network, and for which network investment is most likely to be contemplated.<sup>1</sup> Additional detail of the methodology for calculating prescribed TUoS is contained in the Australian Energy Regulator (AER) pricing methodology guidelines.

The AER pricing methodology guidelines provide guidance on the role of pricing structures in signalling efficient investment decisions and network utilisation decisions.

When an embedded generator connects to a distribution network that imports power from the transmission network, this reduces the amount of energy drawn by that distribution network from the transmission network. Depending on the impact that the embedded generator has on network, this may reduce the locational prescribed TUoS that the DNSP is liable to pay the transmission network owner (all else being equal).

Any reduction in the component of prescribed TUoS that signals long-term costs (the locational component) caused by an embedded generator should be reflective of the

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<sup>1</sup> Clause 6A.23.4(e) of the Rules.

cost savings on the transmission network from delaying the need to augment the network.

The Rules specify that a DNSP is required to pass through the full locational component of the prescribed TUoS charge that it has avoided due to the installation of the embedded generator to that embedded generator.<sup>2</sup>

To calculate the amount to be passed through, the difference is calculated between (1) the charges for the locational prescribed TUoS services that would have been payable by the DNSP for the relevant financial year if the embedded generator had not injected any energy at its connection point and (2) the amount for the locational component of prescribed TUoS actually payable by the DNSP in the financial year.<sup>3</sup>

### **2.1.2 What are network support payments?**

Network support payments are payments made by TNSPs to generators (or any other person) who provide a firm service which is an alternative to network augmentation. The payments are agreed under a network support agreement between the generator and TNSP.

Network support typically involves the sourcing of local generation by a TNSP in order to address forecast constraints in its transmission network. In certain circumstances, a TNSP may find it more cost effective to use generators as a non-network solution for network support to maintain system reliability, rather than undertake network augmentation (such as building additional transmission lines).

Network support provides a direct benefit to transmission customers and end users, as it can defer the need for transmission augmentation, and hence results in lower TUoS charges in the long term, while maintaining the reliability of the network.

Under the current Rules, TNSPs are allowed to recover from their customers actual network support payments made. The network support pass through process (as set out in the Rules) has been established to adjust any network support payments included in a revenue cap so that only actual payments are recovered from transmission customers.

## **2.2 Stage 2 DSP Review recommendation**

In November 2009, the AEMC provided its Final Report on the Stage 2 DSP Review to the MCE. The Stage 2 DSP Review was undertaken with an explicit focus on the current Rules to determine whether there were material barriers to the efficient and effective use of DSP in the NEM.

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<sup>2</sup> Clause 5.5(h) of the Rules. This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations.

<sup>3</sup> Clause 5.5(i) of the Rules.

While the overall findings of the Stage 2 DSP Review were that, in the context of the current technology, the Rules framework does not materially bias against the use of DSP, it identified a number of aspects of the current Rules that might be able to be improved to enhance the participation of the demand side.

The Stage 2 DSP Review concluded that where there is no network support agreement in place, it is appropriate for embedded generators to receive avoided TUoS payments for the benefits they provide. However, the review also found that the current Rules on avoided TUoS payments required to be made by DNSPs to embedded generators were unclear on whether a generator receiving a network support payment from the TNSP should also receive avoided TUoS payments.

The Stage 2 DSP Review considered that the most appropriate way for embedded generators to receive a signal that reflects the benefits they create would ideally be through network support payments. A network support payment would recognise the costs that are avoided by the transmission network owner and the services provided by the generator.

However, the review also considered reasons that a network support payment will not always be made for embedded generators. Due to the transaction costs involved, network support payments are unlikely to be practical for the majority of embedded generators. For instance, transmission network owners are unlikely to be aware of the existence of an embedded generator and its impact on reducing costs. This is because embedded generators have no relationship with TNSPs. In addition, there is no incentive for DNSPs to negotiate on behalf of embedded generators because they obtain no benefit from doing so.

The Stage 2 DSP Review concluded that where an embedded generator receives both types of benefit (an avoided TUoS payment and a network support payment), it would constitute a “double-payment” for the locational benefits it provides. As a result, embedded generators will receive distorted locational signals and will not necessarily connect in areas that would have the largest impact on reducing future transmission investment costs. Accordingly, the Stage 2 DNSP Review recommended amending the Rule on avoided TUoS payments to prevent any such double payment.

### **2.3 MCE response to the Stage 2 DSP Review**

In June 2010, the MCE released its response to the Review recommendations. The MCE generally supported the overall findings of the Stage 2 DSP Review and agreed to initiate the recommended Rule change relating to avoided TUoS payments. Accordingly, on 4 November 2010, the Commission received MCE's Rule change request.

### **3 Details of the Rule Change Request**

The Rule change request from the Proponent proposes that clause 5.5(h) of the Rules be amended to limit the requirement for DNSPs to make avoided TUoS payments to embedded generators. The proposal seeks to ensure a payment only occurs where the embedded generator does not receive network support payments from a TNSP.

The Rule change proposal would not alter the existing requirement for DNSPs to make avoided TUoS payments in circumstances where network support payments did not exist.

In its Rule change request the MCE provides its rationale for the Rule change. The MCE notes the Stage 2 DSP Review recommendation that the current arrangements for avoided TUoS payments to embedded generations should be clarified.

The MCE states that to provide an avoided TUoS payment when an embedded generator is already in receipt of a network support payment would be a double-payment to embedded generators. As a result, the MCE believes that the locational and operational incentives to embedded generators would be over-signalled and contribute to higher long term costs for electricity consumers.

The MCE considers the proposed Rule will, or is likely to, contribute to the achievement of the National Electricity Objective (NEO) because it will ensure that providers of non-network solutions are provided with efficient recompense for network support services thereby ensuring incentives and obligations for supply side and demand side solutions are balanced so that network businesses are encouraged to adopt the most efficient option.

The proponent's Rule change request includes a proposed Rule which is provided as Appendix A to this consultation paper.

## 4 Assessment Framework

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

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

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

The proposed Rule will be assessed against the relevant counterfactual arrangements which, in this case, will be the current provisions under the Rules. That is, an embedded generator is not excluded from receiving network support payments from a TNSP and an avoided TUoS payment from a DNSP.

The assessment will take into consideration the following issues:

- Allocative efficiency - the extent to which the current Rule arrangements could lead to inefficient compensation of embedded generators. As part of this assessment it will be determined whether receiving a network support payment and an avoided TUoS payment constitutes a double payment or whether some element of these payments are for (or provide incentive for) a behaviour or service not covered by the other; and
- Materiality and implementation issues - how the proposed Rule, if implemented, would impact on the operation of the market as a whole. This would include considering:
  - Where a double payment (for part, or all, of the service provided) is determined to exist, the materiality of the identified problem being established in relation to:
    - (i) The NEM as a whole; and
    - (ii) The commercial viability of those embedded generators currently receiving both payments.

When assessing the Rule change, it will be important to consider the stability and regulatory certainty such that the proposed Rule provides adequate regulatory certainty with respect to the long term predictability and certainty of revenue streams. It will also be assessed whether the proposed solution is proportional to the materiality of the identified problem; and

- The practical application - under the Rule change, DNSPs would need to be made aware of TNSP network support agreements to ensure the embedded generator does not qualify for an avoided TUoS payment. A mechanism would be required to ensure this is achieved.

The purpose of this Rule change is specifically to prohibit embedded generators from receiving both a network support payment and an avoided TUoS payment at the same time. The DSP Stage 2 Review concluded that where there is no network support payment in place, it is appropriate for embedded generators to receive avoided TUoS for the benefits they provide.

## 5 Issues for Consultation

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

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

### 5.1 Allocative efficiency

One of the key issues for this Rule change will be to determine whether avoided TUoS payments and network support payments compensate the embedded generator for the same service. Where they do, the current Rules would result in inefficient allocation where the total level of compensation is in excess of the value of the benefit provided. The key areas to determine allocative efficiency are outlined below.

#### 5.1.1 Differentiating between a network support payment and an avoided TUoS payment

There are at least two key areas to consider when comparing a network support payment and an avoided TUoS payment and how they might differ:

1. The locational signal; and
2. The service the embedded generator provides.

If no material differentiation can be made in these two areas, this would provide a justification for ensuring the rules only allow for one payment which could be considered allocatively efficient.

##### *The locational signal*

As described in 2.1.1, the avoided TUoS payment is designed such that an embedded generator only receives a payment when their actual generation results in a reduction in the prescribed TUoS a DNSP pays the TNSP. This provides a signal to locate in an area where these benefits are the highest.

In comparison, network support payments are provided in circumstances where commercial contracts to provide firm non-network alternatives to transmission network augmentation are used. Given a TNSP would only enter a network support agreement where the location of the embedded generator results in a delay to the need for transmission network augmentation, then this also provides a locational signal. An embedded generator who can provide non-network solutions to a TNSP is likely to be able to negotiate a larger payment where it locates in an area for which the TNSPs need to augment is reduced the most.

If an embedded generator receives a network support payment but because of this would be prevented from receiving an avoided TUoS payment, it needs to be considered whether this would provide an adequate signal to locate in the best overall position for the market.

*The service the embedded generator provides*

In assessing whether there is excessive compensation for embedded generators, it needs to be considered what level of service a network support agreement provides a TNSP and what level of service a DNSP (and therefore its customers) receives from its avoided TUoS payment.

A network support agreement requires a generator to provide a firm level of service at its location to ensure the network augmentation can be delayed. The network support payment will be based on this firm level of service<sup>4</sup>.

As described in 2.1.1, an avoided TUoS payment will depend on whether the embedded generator actually reduces the amount of prescribed TUoS a DNSP pays the TNSP. The embedded generator has no commitment to actually achieve any reduction in DNSP peak load.

It therefore needs to be considered whether a network support payment (without an avoided TUoS payment) would adequately compensate the service provided by the embedded generator to the DNSP (and therefore its customers) in the form of reduced prescribed TUoS payments.

### **5.1.2 Impact on network support agreement negotiations**

If this Rule change were to be implemented, an embedded generator entering a network support agreement would be foregoing an avoided TUoS payment. This would be likely to provide a minimum and potentially artificial price for which the embedded generator would provide this network support to the TNSP.

It needs to be considered whether this, in combination with a TNSP's sole buyer position, is likely to provide efficient levels of network support agreements at cost reflective prices.

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<sup>4</sup> It might be noted that, as the sole buyer of this service, the TNSP might be placed at a distinct negotiating advantage so it may be the case that an embedded generator cannot extract the true value of the benefits they have to the transmission network.

**Question 1      Are the current arrangements efficient?**

- 1.1      Would the combination of a network support payment and an avoided TUoS payment over-signal and/or over-compensate embedded generation?**
- 1.2      Do the services and benefits provided by embedded generators for a network support payment and an avoided TUoS payment differ, and if so, how?**
- 1.3      Is the Rule change likely to have any unintended consequences in terms of the network support agreement negotiations?**

## **5.2      Materiality and Implementation Issues**

In assessing whether this Rule change should be introduced, a number of materiality and implementation issues would need to be addressed. These issues are discussed as follows.

### **5.2.1      Market materiality**

If it is established that a double payment does occur, the market benefit from implementing the change would need to be determined to enable a comparison to the costs.

Establishing the size of the identified problem will require greater insight into the instances of where both payments occur and an indication of their value.

In practice, it might be expected that the TNSP is unlikely to have a direct relationship with many embedded generators as, due to their average size, their ability to impact the need to augment the transmission is likely to be low. The likely transactional and negotiating costs from establishing an individual relationship with each embedded generator could exceed the benefit the TNSP would gain from entering a network support agreement with every embedded generator.

### **5.2.2      Materiality for existing embedded generators**

A stable environment that provides regulatory certainty is generally desirable to ensure participants, including embedded generators, can make efficient decisions and minimise potential risks.

Any embedded generator that currently receives an avoided TUoS payment and a network support payment has potentially invested and/or operated based on the expectation of this revenue stream. It is possible, that without this expected revenue stream their historic investment and/or operation decisions may have been different. Similarly, the removal of this revenue stream could impact the business case of a potential entrant or even the current commercial viability of the embedded generator.

A potential consequence of the Rule change could be for an embedded generator with a network support payment to seek to re-negotiate with the TNSP the terms of its network support agreement in an attempt to recoup the loss of the avoided TUoS payment. However, the embedded generator's position to be able to negotiate with a TNSP who is the single buyer of the service, and who will arguably be getting no additional service level from the embedded generator, might be considered limited.

Where these potential consequences of the Rule change can be shown to materially impact existing embedded generators, transitional arrangements to mitigate this impact could be considered.

### **5.2.3 Practical application**

The proposed Rule would restrict a DNSP making an avoided TUoS payment when a network support payment exists. However, the DNSP would not be privy to network support agreements.

Therefore, it would need to be considered whether potential mechanisms are required to address this. Such as mechanism could be as simple as placing an obligation on the TNSP (or the embedded generator) to inform the DNSP of network support agreements with embedded generators

#### **Question 2 What is the materiality of the identified problem?**

- 2.1 To what extent do embedded generators receive both a network support payment and an avoided TUoS payment? Please provide any instances where a network support payment is made to an embedded generator and an indication of the expected value.**
- 2.2 How material is receiving both a network support payment and an avoided TUoS payment to the commercial viability of an embedded generator? (Please provide evidence).**
- 2.3 Should specific provisions related to a transition period be considered?**

## **6 Lodging a Submission**

The Commission has published a notice under section 95 of the NEL for this Rule change proposal inviting written submission. Submissions are to be lodged online or by mail by 21 July 2011 in accordance with the following requirements. Please note that this section incorrectly stated a closing date for submissions of 4 August 2011 in an initially published version of this consultation paper on the AEMC website. This was corrected on 27 June 2011.

Where practicable, submissions should be prepared in accordance with the Commission's Guidelines for making written submissions on Rule change proposals.<sup>5</sup> The Commission publishes all submissions on its website subject to a claim of confidentiality.

All enquiries on this project should be addressed to Chris Stewart on (02) 8296 7800.

### **6.1 Lodging a submission electronically**

Electronic submissions must be lodged online via the Commission's website, [www.aemc.gov.au](http://www.aemc.gov.au), using the "lodge a submission" function and selecting the project reference code "ERC0129". The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

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

### **6.2 Lodging a submission by mail**

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

Australian Energy Market Commission  
PO Box A2449  
Sydney South NSW 1235

Or by Fax to (02) 8296 7899.

The envelope must be clearly marked with the project reference code: ERC0129.

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

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

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<sup>5</sup> This guideline is available on the Commission's website.

## Abbreviations

AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
Commission	See AEMC
DNSP	Distribution Network Service Provider
DSP	Demand Side Participation
MCE	Ministerial Council on Energy
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
TNSP	Transmission Network Service Provider
TUoS	Transmission Use of System

## A Proposed Rule

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

Since the MCE's Rule change request has been disaggregated, the amendments reproduced below only relate to the Network Support Payments and Avoided TUoS for Embedded Generators component of the Rule change request. It is reproduced without amendments or corrections, except for minor formatting changes.

### Amendment of National Electricity Rules – Chapter 5

#### [1] Clause 5.5 Access arrangements relating to Distribution Networks

Omit clause 5.5(h) and substitute:

*Except where a Connection Applicant receives a network support payment, a Distribution Network Service Provider must pass through to a Connection Applicant the amount calculated in accordance with paragraph (i) for the locational component of prescribed TUOS services that would have been payable by the Distribution Network Service Provider to a Transmission Network Service Provider had the Connection Applicant not been connected to its distribution network ('avoided charges for the locational component of prescribed TUOS services').*

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