AEMC

REVIEW

Australian Energy Market Commission

ISSUES PAPER

Management of negative inter-regional settlements residues

18 April 2013

Submissions due 31 May 2013. Reference: EPR0032
Issues Paper

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About the AEMC

The Council of Australian Governments (COAG), through its then Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005. In June 2011, COAG established the Standing Council on Energy and Resources (SCER) to replace the MCE. The AEMC has two main functions. We make and amend the national electricity, gas and energy retail rules, and we conduct independent reviews of the energy markets for the SCER.

Executive Summary

The Australian Energy Market Commission (AEMC or Commission) is reviewing the efficiency of the management by the Australian Energy Market Operator (AEMO) of negative inter-regional settlements residues. The AEMC is required to conduct this review under clause 3.8.10(g) of the National Electricity Rules. The obligation to conduct this review traces its genesis to recommendations made by the AEMC in the Final Report to its Congestion Management Review completed in 2008.

An inter-regional settlements residue, which may be a positive or negative value, is the product of the difference in the regional reference price between two regions in the National Electricity Market (NEM) and the quantity of electricity flowing over an interconnector between those two regions. A negative inter-regional settlements residue (IRSR) arises where there are counter-price flows; that is, electricity flows from a high-priced region to a low-priced region. There are a variety of circumstances, such as the presence of network congestion, that give rise to counter-price flows, and hence negative IRSRs.

It is AEMO's policy and practice that when the value of these negative IRSRs is or is expected to reach $100,000, then AEMO 'clamps' or reduces the counter-price flow of electricity over the affected direction of an interconnector.

As stated above, this review assesses the efficiency of AEMO's management of negative IRSRs. Accordingly, the scope of this review should cover:

- the efficiency of AEMO's current policy and practice of managing negative IRSRs, including the 'clamping' of negative IRSRs when their value reaches $100,000; and

- the appropriateness of the $100,000 intervention threshold.

This Issues Paper sets out the context and key issues for this review and, based on a set of consultation questions, invites submissions from stakeholders by Friday 31 May 2013.

Contents

1 Introduction

In this chapter, we explain why we are conducting this review. We refer to the review's historical basis and situate the review in the context of current energy market reforms. Importantly, we set out the scope of the review - the broad parameters and range of issues we intend to address. The chapter concludes by outlining the proposed milestones for the review and invites submissions on this Issues Paper.

1.1 Background to the review

The requirement to conduct this review traces its genesis from the Congestion Management Review (CMR) completed by the AEMC in 2008. The CMR provided a set of recommendations to address network congestion in the NEM.

One of the recommendations of the CMR was to increase the threshold that would trigger AEMO to intervene or 'clamp' the interconnector flow and thus the amount of negative IRSRs[1] from $6,000 to $100,000.[2] The increase to the threshold was not an obligation under the National Electricity Rules (NER or Rules); rather, it arose as a change to AEMO's operational policy and practice.

However, the Commission did introduce an obligation in the rules for the AEMC to review AEMO's management of negative IRSRs three years after the changes were implemented. At the time, the Commission noted that any intervention in the market (ie clamping negative IRSRs) is a sub-optimal arrangement but considered that removing such an intervention altogether could distort generator bidding incentives.[3] The threshold was increased from $6,000 to $100,000 to reduce uncertainty for participants around excessive intervention in dispatch and to allow, in most cases, efficient dispatch to continue by delaying intervention. These policy justifications, expressed in the CMR, form the historical background to this review.

More recently, the AEMC has been consulting on a number of relevant issues through the Transmission Frameworks Review (TFR). The TFR Final Report was published on 11 April 2013. One of the proposed outcomes of the TFR is to provide a way forward to manage issues related to network congestion and disorderly bidding (when generators rebid in ways that do not reflect their actual economic cost) in the NEM. The 'Optional Firm Access' arrangements presented in the report would address many of the causes of negative IRSRs, and would be likely to remove the need for AEMO to manage their effects. However, this represents a potential long term solution, and there may be a need to ensure that the current arrangements remain appropriate in the interim.

1 These concepts are explained further in Chapter 2 of this Issues Paper.

2 Australian Energy Market Commission, *Congestion Management Review*, final report, June 2008, p. 22.

3 AEMC, ibid, p.22.

1.2 Purpose and scope of the review

As indicated above, we are conducting this review to fulfil an obligation on the AEMC under the NER. This obligation is set out in clause 3.8.10(g) of the NER, as set out below.

Box 1.1: Clause 3.8.10(g) of the National Electricity Rules

Within 3 years from 1 September 2009, the AEMC must commence a review, under section 45 of the National Electricity Law, in respect of the efficiency with which AEMO is managing circumstances in which the settlements residue arising in respect of a trading interval is a negative amount.

In order to determine the scope for this review, we considered both the express terms of the obligation in the NER as well as the original intent behind this obligation as expressed in the Final Report to the AEMC's CMR. With this in mind, we consider that the scope for this review should focus on how AEMO manages the effects of negative IRSRs. The review will therefore consider:

- the efficiency of AEMO's current policy and practice of managing negative IRSRs, including the 'clamping' of negative IRSRs when their value reaches $100,000; and
- the appropriateness of the $100,000 intervention threshold, including consideration of alternative thresholds.

We consider that the time frame for reviewing AEMO's management of negative IRSRs applies from when the arrangements stipulated in the CMR came into effect, that is 1 July 2010 to present.[4]

In conducting this review, we intend to engage collaboratively with AEMO and affected stakeholders.

1.3 Principles for the review

Our role to develop the NEM requires the AEMC to promote the achievement of the National Electricity Objective (NEO)[5], which implicitly includes the promotion of principles of good regulatory practice.

4 The date of 1 September 2009 is when the AEMC's Final Determination of the Arrangements for Managing Risks Associated with Transmission Network Congestion - Rule 18 was made. This Rule implemented the CMR recommendations, including the present requirement to review AEMO's management of negative IRSRs and came into effect on 1 July 2010.

5 As set out in section 7 of the National Electricity Law (NEL).

Box 1.2: National Electricity Objective

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.

Fulfilment of these regulatory objectives involves both evaluating whether current arrangements achieve the intended outcome - principally, an efficient NEM in the long term interests of consumers - and evaluating the means - principally, through regulatory practice and procedure - by which these outcomes are achieved.

In light of the NEO and with consideration of good regulatory practice, we consider that the key principles for this review are:

- **Economic efficiency** - whether the role of AEMO to manage negative IRSRs contributes to the efficient operation of the NEM;
- **Administrative effectiveness** - whether the current processes and procedures of AEMO to manage negative IRSRs achieve intended outcomes; and
- **Transparency and accountability** - whether the decisions made to manage negative IRSRs are done under a clear framework and communicated effectively to affected stakeholders.

We will use these principles to guide our assessment of the issues arising within this review.

1.4 Proposed milestones for the review

In this review, we propose to publish three reports: an Issues Paper, a Draft Report and a Final Report. We will seek submissions from stakeholders on the Issues Paper and Draft Report. The proposed time frames for the publication of these reports are as follows:

Table 1.1 Project Milestones

Milestone	Expected publication date
Issues Paper	April 2013
Draft Report	September 2013
Final Report	December 2013

1.5 Making a submission to the Issues Paper

The closing date for submissions is close of business on Friday 31 May 2013.

Submissions must be on letterhead (if submitted on behalf of an organisation), signed and dated. Submissions should quote project number 'EPR0032" and may be lodged online at www.aemc.gov.au or by mail to

Australian Energy Market Commission

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1.6 Structure of the Issues Paper

The remainder of the Issues Paper is structured as follows:

- Chapter 2 describes AEMO's current management of negative inter-regional settlements residues, including an explanation of the concept of a negative inter-regional settlements residue and its relationship to network congestion and disorderly bidding; and
- Chapter 3 sets out the main issues for this review, including a set of consultation questions.

2 Management of negative IRSRs in the NEM

In this chapter we explain why negative IRSRs arise and the impacts that negative IRSRs can have on market participants. We also provide some data on the materiality of negative IRSRs in the NEM. We then describe AEMO's current processes for managing negative IRSRs.

2.1 Inter-regional settlements residues

In the NEM, the value of an IRSR is defined as the difference in the regional reference price between two regions multiplied by the power flows between those regions.

In normal circumstances, electricity would be expected to flow from a low priced region to a high priced region. If there is relatively lower priced generation in one region and relatively higher priced load in another region, then AEMO would receive a surplus of funds equivalent to the difference between the amount of money to be paid by market customers (in the higher priced region) and the amount of money to be paid to generators (in the lower priced region). This surplus of funds is an IRSR; in this case, it is a positive IRSR.

A positive IRSR can be used by market participants to support trading between regions by partially hedging price risk or price differences between the regions. Market participants acquire positive IRSRs in advance by bidding for them at a Settlements Residue Auction (SRA).

2.2 Negative IRSRs

The dispatch of generation in the NEM is based on generators' offer prices, which represent the lowest price at which they are willing to be dispatched. The National Electricity Market Dispatch Engine (NEMDE) seeks to minimise total dispatch costs (as represented by the price offers) while ensuring that:

- sufficient generation is dispatched to meet demand/load in total; and
- any capacity limitations in the transmission network are not exceeded.

Following dispatch, a single Regional Reference Price (RRP) is calculated for each region of the NEM. The RRP is set at the cost of supplying an additional unit of electricity at the Regional Reference Node (RRN). The RRN is a specified point in a region; it is normally close to the region's largest demand centre. All generation and load in a region is settled using the relevant RRP.

During the process of dispatch optimisation, the lowest cost result according to the objective function of NEMDE, in the presence of constraints, can result in counter-price flows between regions.

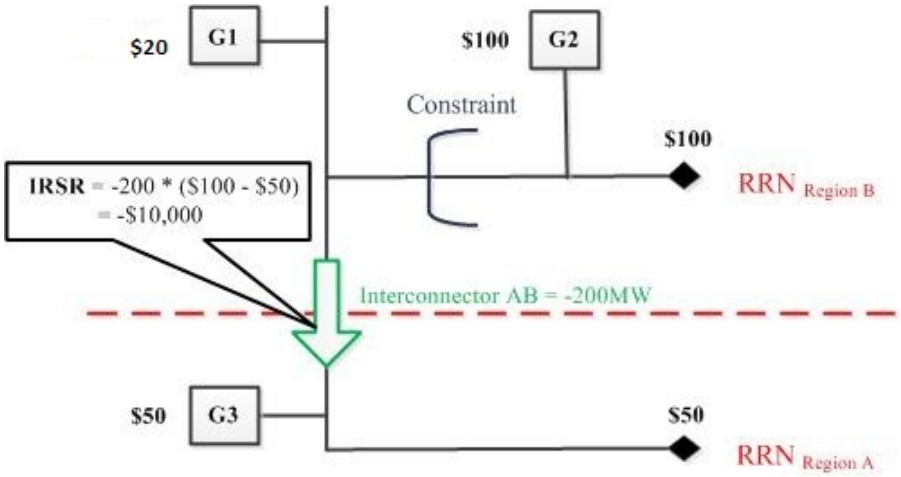
Such counter-price flows result in the accrual of negative IRSRs: the amount of energy flowing between the regions is multiplied by a price difference between the exporting region and the importing region that is negative.

These concepts are illustrated in the diagram below. For simplicity, we assume an hourly trading interval. While there can be many causes of counter-price flows, in this simplified example there is a constraint between the RRN in region A and the RRN in region B. This constraint causes the two RRPs to diverge.

Generator G1 has the lowest offer price, and is dispatched by NEMDE on that basis. However, the location of the constraint *within* region B means that not all of the power generated by G1 can reach the demand centre at the RRN, and some is instead consumed in region A.

In order to ensure that demand is met in region B, it is necessary to dispatch generator G2, and this sets the RRP in that region of $100/MWh. As G1 is located in region B, it is then also paid $100/MWh. However, consumers in region A will pay only the RRP in region A of $50/MWh, including for the 200MW of G1's output consumed in that region. This results in a negative IRSR of $10,000 per hour.

Figure 2.1 Network congestion and negative IRSRs



2.3 Magnitude of negative IRSRs in the NEM

Determining the magnitude of negative IRSRs in the NEM provides a sense of the materiality, in terms of dollar value, attributable to negative IRSRs in the NEM to date. From 1 July 2010[6] until January 2013, approximately $26 million of negative IRSRs were accrued across all 6 interconnectors in the NEM. The following table shows the cumulative values of both positive and negative IRSRs accrued since 1 July 2010 to January 2013.

6 When changes were made such that negative IRSRs were recovered from the importing region's Transmission Network Service Provider (TNSP).

Table 2.1 Cumulative value of positive and negative IRSRs in the NEM from July 2010 to January 2013

Interconnector	Positive IRSR Value ($'000)	Negative IRSR Value ($'000)
SA>VIC	16,133	734
VIC>SA	42,934	530
NSW>QLD	1,475	1,193
QLD>NSW	88,170	16,768
NSW>VIC	7,261	2,045
VIC>NSW	69,322	4,676
Total	225, 295	25,946

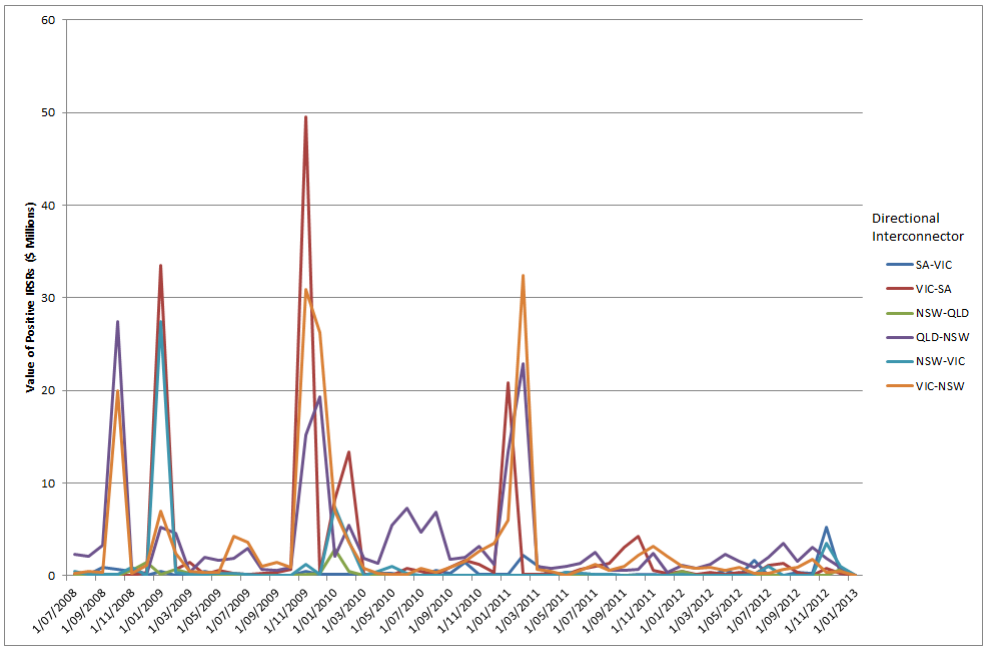
These figures indicate that the interconnectors with the greatest value of negative IRSRs are on the directional interconnector of Queensland to New South Wales followed by the directional interconnector of Victoria to New South Wales. The Australian Energy Regulator (AER) prepared a report entitled - 'Special Report: The impact of congestion on bidding and inter-regional trade in the NEM' - that outlines case studies of counter-price flows on both of these interconnectors.[7]

The two figures below show, respectively, the value of positive and negative IRSRs flowing over each of the six directional interconnectors in the NEM from 1 July 2008 to January 2013 on a monthly basis. It is important to note that the change in AEMO's intervention threshold to clamp negative IRSRs from $6000 to $100,000 took effect from 1 July 2010.

Of significance was the almost $19 million worth of negative IRSRs accruing due to counter-price flows from Victoria into NSW for the month of April 2010. This negative IRSR event arose out of a network constraint in Victoria resulting in NEMDE calculating that electricity should flow from Victoria (a relatively higher price region) to NSW (with a relative lower price) in order to maintain system security.

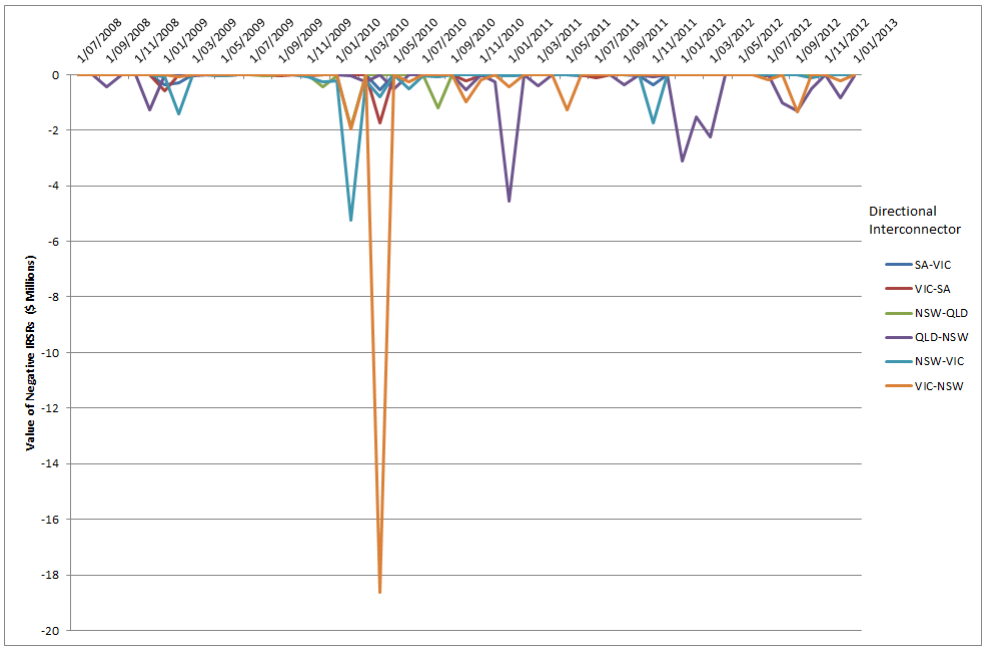
7 Australian Energy Regulator, *Special Report: The impact of congestion on bidding and inter-regional trade in the NEM*, December 2012. Available at www.aemo.com.au

Figure 2.2 Positive IRSRs by directional interconnector in the NEM



It is important to note that Figure 2.3 below is on a different scale (in terms of the value of IRSRs) from Figure 2.2 above. This should be taken into account when drawing comparisons between the two Figures.

Figure 2.3 Negative IRSRs by directional interconnector in the NEM



2.4 AEMO's current management of negative IRSRs

2.4.1 Overview

When the value of negative IRSRs reaches or is expected to reach $100,000, AEMO manages negative IRSRs by 'clamping' or, in other words, invoking constraints over a directional interconnector, to reduce counter-price flows and hence limit the further accumulation of negative IRSRs. These constraints remain in place until AEMO decides that the constraints can be revoked because counter-price flows no longer persist.

Importantly, AEMO would only begin to invoke constraints to reduce the flow of negative IRSRs as long as the security of the electricity system is maintained. In practice this means that if the security of the electricity system may be compromised, then AEMO will strive to maintain security even if, as a result, there are counter-price flows and the accumulation of negative IRSRs above the threshold continues to occur.

The value of $100,000 to be used as a threshold first emerged in 2006 when the National Electricity Market Management Company (NEMMCO now AEMO) consulted on lifting the clamping threshold from $6000 to $100,000.[8] The value of $100,000 of negative IRSRs per event was derived as a result of balancing NEMMCO's ability to carry market liability (approximated as $150,000 per event) and the shorter duration of AEMO carrying the negative IRSR liability (the maximum liability period changed from 21 months down to 3 months). The final recommendations in the AEMC's CMR adopted the $100,000 value for reasons expressed previously.[9]

AEMO's change of the clamping threshold from $6000 to $100,000 was given further practical effect because of the change in the funding arrangements for negative IRSRs from AEMO to the importing region's TNSP. This change arose out of a recommendation in the CMR where the importing region's TNSP bears the cost of funding negative IRSRs and can recover these costs from its customers through Transmission Use of System (TUOS) charges.

The $100,000 threshold applies over an 'event', which in practice refers to the accumulation of negative IRSRs within a dispatch interval and/or estimating whether the $100,000 would be breached over subsequent dispatch intervals in a trading interval and, potentially over a subsequent half-hour pre-dispatch interval. This means that conceivably there can be multiple 'events' within a day that trigger the $100,000 threshold.

To determine when the $100,000 threshold triggers AEMO's clamping of negative IRSRs, AEMO tests every dispatch interval within a trading interval to estimate whether the cumulative value is expected to reach the $100,000 threshold by the end of that trading interval. This may mean that, within a trading interval, AEMO begins to clamp negative IRSRs a short time before the $100,000 is actually reached.

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8 NEMMCO, Final Determination Report - Review of the Trigger Level for Management of Negative Settlement Residues, 27 June 2006.

9 Refer to section 1.1.

2.4.2 Operational process

Automated process for managing negative IRSRs

To manage negative IRSRs, AEMO generally applies an automated process. An automated process entails Negative Residue Management (NRM) constraints being invoked when the negative IRSR is estimated to reach or has exceeded the threshold.[10] The NRM constraint equations aim to prevent further negative IRSRs by reducing the counter-price flow over the relevant directional interconnector. If the threshold is or is expected to be reached in the current trading interval, then the relevant NRM constraint equations are invoked. AEMO constrains the flow over a directional interconnector at a rate no greater than that which applies for a planned outage.

The NRM constraint equation will be revoked when one of the following conditions occurs:

- For the last three dispatch intervals, the NRM constraint has not bound and non-negative IRSRs were occurring (ie. the negative IRSR event has finished);
- For the last three dispatch intervals, the NRM constraint has been violated (ie. a constraint of a higher order of priority has displaced the NRM constraint) and non-negative IRSRs were occurring;
- AEMO's control room manually intervenes to block the NRM constraint equation, for example, to meet system security concerns; and
- The management period (which is the current trading interval plus two additional trading intervals) has expired with none of the above conditions being met and no further negative IRSRs exceeding -$1000 have occurred.

Manual process for managing negative IRSRs

AEMO applies a manual process for managing negative IRSRs when there is a price revision event.[11] Price revision events must first be addressed before AEMO manages negative IRSRs. The general principle is that management of negative IRSRs should not commence unless there are firm prices. Therefore, if there is a price revision event (which implies that prices may not be firm), this must first be addressed before a manual process to manage negative IRSRs is implemented. Conversely, if there is no price revision event, then an automated process for managing negative IRSRs can be implemented.

10 Australian Energy Market Operator, *Brief on automation of negative residue management*, 8 June 2012. Available at www.aemo.com.au.

11 A price revision event occurs when large changes in dispatch prices are detected by AEMO's systems and such prices are automatically flagged to be subject to review. In the price revision event, AEMO may replace the dispatch price in question with a previous dispatch price if it is considered to be a manifest input error, such as a Supervisory Control and Data Acquisition (SCADA) interruption.

AEMO's communication of its management of negative IRSRs

Market participants are informed of AEMO's execution of the NRM process through Market Notices that state when an NRM process begins and ends. These Market Notices contain information about:

- The affected directional interconnector;
- The actual or forecast time of the event; and
- Any constraints invoked to manage the event.

3 Key issues for the review

In this chapter we explore the key issues to be addressed by this review. These issues were developed and derived from the proposed scope of the review. A number of consultation questions are included to facilitate submissions from stakeholders.

3.1 Effectiveness of AEMO's current management of negative IRSRs

As discussed in the previous chapter, AEMO is responsible for managing negative IRSRs. As part of its operational practice, when the value of negative IRSRs reaches $100,000 during an event, AEMO can 'clamp' the further flows of these negative IRSRs by invoking constraints over a particular directional interconnector.

One of the main issues for this review is to assess the effectiveness of AEMO's current practice of managing negative IRSRs. Effectiveness, in its ordinary sense, refers to whether intended outcomes are actually achieved. To assess the effectiveness of AEMO's current practices, we propose the following criteria based on the key principles for this review:

- The transparency and clarity of AEMO's processes to market participants. AEMO publishes its processes for managing negative IRSRs on its website. For example, AEMO publishes information on its automated negative IRSR management process and its Dispatch System Operating Procedure.[12] Could there be any improvements be made to the transparency and clarity of these processes?;

- The relative timeliness of AEMO's intervention to achieve intended outcomes. AEMO's automated system on negative IRSRs attempts to manage these residues when they exceed or are expected to exceed the threshold. Could any improvements be made to the timeliness of AEMO's response?;

- The proportionality of AEMO's intervention given the materiality of the problem of negative IRSRs occurring. The proportionality of AEMO's response recognises that when AEMO intervenes to 'clamp' negative IRSRs it does so in a way that prioritises the security of the electricity system. Are AEMO's responses proportionate to the nature of the problem?;

- The extent that all aspects of AEMO's intervention are communicated to appropriate stakeholders. When AEMO decides to 'clamp' and revokes the 'clamp' of negative IRSRs it communicates its actions to stakeholders through Market Notices. Are these arrangements sufficient or could improvements be made?

We are also interested in stakeholders' views regarding any factors outside of AEMO's control that may affect AEMO's management of negative IRSRs.

12 Available at www.aemo.com.au.

Question 1 Effectiveness of AEMO's current management of negative IRSR

- **Could the transparency and clarity of AEMO's processes for managing negative IRSRs be enhanced?**
- **Could any improvements be made to the timeliness of AEMO's response in managing negative IRSRs?**
- **Are AEMO's responses proportionate to the issues raised by negative IRSRs? Or should AEMO responded differently?**
- **Is AEMO's communications approach with respect to managing negative IRSRs sufficient?**
- **Are there any factors outside of AEMO's control that may affect AEMO's management of negative IRSRs?**

3.2 The $100,000 intervention threshold

The final recommendations of the CMR proposed that AEMO change its operational threshold regarding when it would intervene in the market to 'clamp' negative IRSRs from $6000 to $100,000. Additionally, in the CMR the AEMC recommended that the liability for funding negative IRSRs be shifted to the importing region's TNSP.

The original intent was that this threshold should be designed so that it would minimise inefficient intervention while recognising that some intervention was necessary to limit the consequences of certain generator bidding incentives during transmission constrained operation. It recognised the need to find the appropriate balance between minimising counter-price flows and the need to avoid market intervention. More frequent interventions on the part of AEMO could result in more costly dispatch outcomes that ultimately affect consumers. In light of the NEO, one of the issues for this review is therefore whether the $100,000 threshold is set at the appropriate level.

To assess whether AEMO's intervention threshold is set at the appropriate level, the respective benefits and costs of setting the threshold at that level should be considered. In terms of benefits, it should be noted that the clamping of negative IRSRs serves to limit the amount of money that TNSPs recover from consumers through network charges. This is because negative IRSRs are funded by TNSPs in the importing region and recovered from consumers through TUOS charges. To what extent should AEMO intervene in the market to reduce the consequences of disorderly bidding?

However, in terms of costs, it is possible that AEMO's intervention in the market may be theoretically sub-optimal, although it is difficult to tell whether this is the case in practice. Costs of setting the threshold at this level could include AEMO's direct cost of managing negative IRSRs. As a consequence of AEMO clamping negative IRSRs, it

could also require consideration of the impacts (direct or indirect) on other market participants with respect to efficient dispatch.

We are particularly interested in whether the $100,000 threshold represents the appropriate level for intervention or whether the threshold should be adjusted up or down. In considering the appropriate level of the threshold for AEMO's intervention, it could be argued that the threshold should be made smaller than its current level so that the effects of counter-price flows are dealt with more promptly and thus address the consequences of disorderly bidding in a more expeditious manner. Alternatively, making the threshold larger could reduce the frequency of intervention in the market.

We welcome stakeholders' views on the appropriateness of the $100,000 threshold. This includes views about what factors should be used to determine the level of the threshold. Given that all such thresholds are to some extent imprecise, assessing this issue will involve reflecting upon the circumstances when AEMO has intervened and evaluating whether a different threshold could have led to a more efficient outcome in light of the NEO.

Question 2 The $100,000 intervention threshold

- **Is the $100,000 intervention threshold, applied by AEMO, appropriate?**
- **If not, should the threshold be adjusted up or down?**
- **What factors should be used to determine the level of the threshold?**

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CMR	Congestion Management Review
IRSR	inter-regional settlements residue
NEL	National Electricity Law
NEM	National Electricity Market
NEMDE	National Electricity Market Dispatch Engine
NEMMCO	National Electricity Market Management Company
NEO	National Electricity Objective
NER	National Electricity Rules
NRM	Negative Residue Management
RRN	Regional Reference Node
RRP	Regional Reference Price
SCADA	Supervisory Control and Data Acquisition
SRA	Settlements Residue Auction
TFR	Transmission Frameworks Review
TNSP	Transmission Network Service Provider
TUOS	Transmission Use of System

A Terms of Reference for the review

A.1 Introduction

Under clause 3.8.10(g) of the National Electricity Rules (NER or Rules), the Australian Energy Market Commission (AEMC or Commission) is required to review the efficiency of the management of negative inter-regional settlements residues (IRSRs) by the Australian Energy Market Operator (AEMO).

This obligation stems from recommendations developed in the AEMC's Congestion Management Review, and implemented through rule changes completed in 2009. Amongst other things, these rule changes altered the arrangements through which negative IRSRs were funded. This allowed AEMO to modify its policies regarding the management of negative IRSRs. In particular, the value of accumulated negative IRSRs that would trigger AEMO's intervention into the market by 'clamping' such negative IRSRs was changed from $6,000 to $100,000. The rule changes required that these arrangements for managing negative IRSRs be reviewed by the AEMC after three years, and it is this requirement which forms the basis of this review.

A.2 Scope of the Review

The Commission is reviewing AEMO's management of IRSRs to consider, as a minimum:

- the efficiency of AEMO's current policy and practice of managing negative IRSRs, including the 'clamping' of negative IRSRs when their value reaches $100,000; and
- the appropriateness of the $100,000 intervention threshold, including consideration of alternative thresholds.

A.3 Process and Timing

Under section 45 of the National Electricity Law (NEL), the Commission is conducting this review into the efficiency of AEMO's management of negative IRSRs as required by clause 3.8.10(g) of the NER.

The Commission intends to publish an issues paper to identify the range of issues to be considered in this review and seek stakeholder comments about:

- whether the issues we have identified are appropriate; and
- potential ways to address these issues.

The Commission also intends to publish a draft report (which will be subject to public consultation) and a final report for this review.

In accordance with section 45(4) of the NEL, a copy of the final report will be provided to the Ministerial Council on Energy (now the Standing Council of Energy and Resources) and published on the AEMC's website.