



# RULE CHANGE

Australian Energy Market Commission

## DRAFT RULE DETERMINATION

### National Electricity Amendment (Arrangements for Managing Risks associated with Transmission Network Congestion) Rule 2009

#### Rule Proponent(s)

Ministerial Council of Energy

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23 April 2009

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## **Citation**

AEMC 2009, *Arrangements for Managing Risks associated with Transmission Network Congestion*, Draft Rule Determination, 23 April 2009, Sydney

## **About the AEMC**

The Council of Australian Governments, through its Ministerial Council on Energy, established the Australian Energy Market Commission (AEMC) in July 2005 to be the Rule maker for national energy markets. The AEMC is currently responsible for Rules and policy advice covering the National Electricity Market. It is a statutory authority. Our key responsibilities are to consider Rule change proposals, conduct energy market reviews and provide policy advice to the Ministerial Council as requested, or on AEMC initiative.

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## Abbreviations

ACCC	Australian Competition and Consumer Commission
ACF	Alternative Constraint Formulation
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
APR	Annual Planning Report
CIR	Congestion Information Resource
CMR	Congestion Management Review
Commission	see AEMC
CPI	Consumer Price Index
IRSR	Inter-Regional Settlement Residue
LHS	Left-Hand Side
MCE	Ministerial Council on Energy
MNSP	Market Network Service Provider
NEO	National Electricity Objective
NEL	National Electricity Law
NEM	National Electricity Market
NEMDE	National Electricity Market Dispatch Engine
NEMMCO	National Electricity Market Management Company
NOS	Network Outage Schedule
PNO	Planned Network Outage
RHS	Right-Hand Side
RRP	Regional Reference Price
Rules	National Electricity Rules
SRA	Settlement Residue Auction
TNSP	Transmission Network Service Provider

## Summary

On 19 February 2009, the Australian Energy Market Commission (Commission) received a Rule Change request from the Ministerial Council on Energy (MCE). The Rule Change Proposal seeks to implement four Rule changes that arose out of recommendations that the MCE endorsed from the Commission's Congestion Management Review (CMR).

The proposed Rule changes are:

- National Electricity Amendment (Fully Co-optimised and Alternative Constraint Formulations) Rule;
- National Electricity Amendment (Negative Inter-regional Settlements Residue Amounts) Rule;
- National Electricity Amendment (Congestion Information Resource) Rule;
- National Electricity Amendment (Network Augmentations) Rule.

The Commission decided to fast track the Rule Change Proposal in accordance with section 96A of the National Electricity Law (NEL), as the proposed Rules contained in the Rule Change Proposal were included in the Commission's CMR Final Report and were the subject of public consultation.

The MCE has endorsed the recommendations made by the Commission in the CMR Final Report noting that the proposed incremental changes are consistent with the current National Electricity Market design and look to improve the provision of information and strengthen the existing risk management instruments. The MCE stated that the proposed recommendations would improve the clarity of the dispatch process and rules around transmission augmentation, and provide greater transparency, predictability and certainty around the formulation, development and use of constraint equations and the use of existing hedging instruments.

The Commission assessed the Rule Change Proposal and is of the view that three of the proposed Rules, subject to some minor amendments, do meet the statutory Rule making test. The Commission is of the view that the proposed National Electricity Amendment (Network Augmentations) Rule 2009 does not satisfy the Rule making test as a number of issues relevant to this proposed Rule are being considered as part of the Commission's Climate Change Policies Review.

The Commission invites submissions on this draft Rule determination by 5 June 2009.

In accordance with section 101 of the NEL, any interested person or body may request that the Commission hold a hearing in relation to the draft Rule determination. Any request for a pre-determination hearing must be made in writing and must be received by the Commission no later than 1 May 2009.

Submissions and requests for a hearing should quote project number "ERC0076" and may be sent electronically to [submissions@aemc.gov.au](mailto:submissions@aemc.gov.au) or by mail to:

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# 1 MCE's Rule Change Proposal

## 1.1 Proposal

On 19 February 2009, the Australian Energy Market Commission (Commission) received a Rule change request from the Ministerial Council of Energy (MCE) (Rule Change Proposal).<sup>1</sup> The Rule Change Proposal seeks to implement four changes to the National Electricity Rules (Rules) that the Commission recommended as part of its Congestion Management Review (CMR).

In recognition of the extensive consultation undertaken by the Commission as part of the CMR, the MCE has requested that the Commission proceed with the four Rule Changes under a “fast-track” rule change process in accordance with section 96A of the National Electricity Law (NEL).<sup>2</sup>

## 1.2 Background

In October 2005, the MCE directed the Commission to review congestion management in the National Electricity Market (NEM). On 16 June 2008, the Commission published its Final Report of the CMR.<sup>3</sup>

The CMR involved the Commission identifying and developing improved arrangements for managing the financial and physical trading risks associated with material network congestion in the NEM. The Commission was also asked to develop draft Rule changes to enable implementation of the proposed arrangements. The Commission recommended four specific Rule Changes.

The MCE has endorsed the recommendations by the Commission contained in the CMR Final Report, noting that the proposed incremental changes are consistent with the current NEM market design and look to improve the provision of information and strengthen the existing risk management instruments.<sup>4</sup> The MCE stated that the proposed recommendations would improve the clarity of the dispatch process and rules around transmission augmentation, and provide greater transparency, predictability and certainty around the formulation, development and use of constraint equations and the use of existing hedging instruments.<sup>5</sup>

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<sup>1</sup> MCE Chair, Rule Change Proposal, Congestion Management Review Final Report, 5 November 2009 (Rule Change Proposal, Part 1); MCE Standing Committee of Officials, Rule Change Proposal, Arrangements for Managing Risks associated with Transmission Network Congestion, 16 February 2009 (Rule Change Proposal, Part 2) (together the Rule Change Proposal)

<sup>2</sup> Rule Change Proposal, Part 1, p 1.

<sup>3</sup> AEMC Final Report, Congestion Management Review, 16 June 2008

<sup>4</sup> Rule Change Proposal, Part 1, p 3.

<sup>5</sup> Rule Change Proposal Part 1, p 3.

### 1.3 Description of the proposed Rules

The four Rules proposed by the MCE seek to address issues relating to the management of physical and financial trading risks associated with material transmission network congestion. Each of the four Rules are outlined below:

- *Draft National Electricity Amendment (Fully Co-optimised and Alternative Constraint Formulations) Rule* (Constraint Formulations Rule).

The aim of this proposed Rule is to improve the transparency and predictability of the central dispatch process. More information and greater certainty about how dispatch operates would assist generators and large customers in making decisions on bids and offers to manage the risks associated with congestion. Clear rules and guidelines would also give NEMMCO a more structured framework under which to operate.

This Rule would oblige NEMMCO to use fully co-optimised network constraint formulations for the purposes of dispatching generation whenever practicable, except in exceptional circumstances when it may use an Alternative Constraint Formulation (ACF). The Rule would require NEMMCO to develop, publish and comply with network constraint formulation guidelines for both fully co-optimised constraint formulations and the ACF. These network constraint formulation guidelines would also include NEMMCO's intervention policy with respect to managing negative settlement residues.

- *Draft National Electricity Amendment (Negative Inter-regional Settlements Residue Amounts) Rule* (Negative IRSR Amounts Rule).

This proposed Rule aims to improve the 'firmness' of Inter-Regional Settlements Residues (IRSR) as a hedging instrument. Currently, the negative settlements residues are netted off against positive settlement residues (within the same billing week) and, other things being equal, this reduces the funds paid out to IRSR holders and therefore reduce the firmness of the hedge.

The proposed Rule would reduce uncertainty for holders of IRSR units; first by stopping the current practice of netting negative settlement residues against positive settlement residues and, secondly, by funding negative settlement residues from the TNSP in the importing region. The effect of this proposed Rule would be to improve the 'firmness' of IRSRs as financial hedging instruments in the NEM.

In the Rule Change Proposal, the MCE also referred to the current negative settlement residue recovery mechanism which is due to expire on 30 June 2009. The MCE suggested extension of the existing mechanism through a savings and transitional arrangement as part of the Negative IRSR Amounts Rule.<sup>6</sup> This issue, however, has been the subject of a separate Rule change request from NEMMCO<sup>7</sup>.

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<sup>6</sup> Rule Change Proposal, Part 2, p 1.

<sup>7</sup> AEMC 2009, *Negative Settlements Residue Recovery, Extension of Sunset*, Final Rule Determination, 16 April 2009.

- *Draft National Electricity Amendment (Congestion Information Resource) Rule* (Congestion Information Resource Rule).

This proposed Rule seeks to improve the quantity, quality and timeliness of information made available to market participants with respect to planned network events and incidence and patterns of mis-pricing in the NEM. It is considered that provision of such information, in a consolidated congestion information resource, would inform investors with respect to efficient locational investment decisions for building transmission and generation capacity. These decisions should contribute to the reduction of congestion in the longer term.

The proposed Rule would establish a new Congestion Information Resource (CIR), to be published by NEMMCO, which would consolidate and enhance existing sources of information pertaining to planned network events and incidence and patterns of mis-pricing. The proposed Rule would enhance decision-making by market participants with respect to risks arising from congestion.

- *Draft National Electricity Amendment (Network Augmentations) Rule* (Network Augmentations Rule).

The aim of this proposed Rule is to clarify the ability of a generator, who funds a network augmentation, to realise the full benefits of that augmentation; the lack of which could potentially act as a barrier to efficient responses to locational signals for investment. In particular the Rule addresses: i) the treatment of parties that subsequently connect to a generator-funded network augmentation and ii) the principles pertaining to negotiations between transmission network service providers (TNSPs) and generators seeking access to transmission networks.

The proposed Rule would clarify the Rules governing the rights of generators who fund transmission augmentations as a means of managing congestion risk, so that future connecting parties will make a contribution to those funded investments from which they benefit. The proposed Rule would also ensure that negotiations between generators and TNSPs are conducted in a manner that is consistent with the principles relating to access to negotiated transmission services in clause 6A.9.1 of the Rules.

## **1.4 Fast track Rule change process**

On 5 March 2009 the Commission published a notice under section 95 of the NEL advising of its intention to commence the Rule change process in respect of the Rule Change Proposal.

The Commission has decided to fast-track the Rule Change Proposal under section 96A of the NEL and, accordingly, there has been no first round consultation. The basis for making this decision is set out below:

- the MCE has made a request for the making of a Rule on the basis of a recommendation contained in a MCE directed review; that is, the proposed Rules were included in the CMR Final Report;
- the Rule change request reflects or is consistent with the relevant recommendation contained in the MCE directed review; that is, the Rule Change Proposal is consistent with the Commission's recommendations contained in the CMR Final Report; and
- there was adequate consultation with the public by the AEMC on the content of the relevant recommendation. The proposed Rules were consulted on as part of the NTP Review. The consultation is outlined below.<sup>8</sup>

These four Rule changes were proposed by the MCE based on recommendations made in the CMR, following extensive consultation. The CMR Final Report documents the following consultations that were undertaken leading up to recommending the Rules:

1. an Issues Paper (March 2006) that outlined the Commission's understanding of the Terms of Reference and the impacts of congestion on the market;
2. a Statement of Approach (June 2006) that set out the process the Commission intended to take in progressing the Review and related issues;
3. a revised Statement of Approach (December 2006) that updated the process for progressing the Review and related issues;
4. a Directions Paper (March 2007) that presented some preliminary findings on materiality and a discussion of the options that the AEMC considered were worth closer examination;
5. a Draft Report (September 2007) that presented the Commission's proposed recommendations for improving congestion management arrangements in the NEM; and
6. Exposure Drafts (March 2008 and May 2008) that presented legal drafting to implement the changes to the Rules that the Commission recommended in the Draft Report.

Throughout the Review process the Commission also liaised directly with stakeholders through bilateral meetings, workshops and industry forums.

The matters raised by stakeholders in submissions on the Draft Report and the Exposure Drafts of the Rules have been noted, assessed, decided upon in the CMR Final Report.

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<sup>8</sup> Refer to sections 96A(1)(b) and 96A(2)(b) of the NEL.

## **1.5 Structure of the draft Rule determination**

Chapter 2 sets out the Commission's draft Rule determination. Chapter 3 explains the methodology adopted by the Commission for considering the Rule Change Proposal.

Chapters 4, 5, 6 and 7 set out the Commission's detailed assessment of the Rule Change Proposal.

## **1.6 Consultation on the draft Rule determination**

The Commission invites submissions on this draft Rule determination by 5 June 2009.

In accordance with section 101 of the NEL, any interested person or body may request that the Commission hold a hearing in relation to the draft Rule determination. Any request for a pre-determination hearing must be made in writing and must be received by the Commission no later than 1 May 2009.

Submissions and requests for a hearing should quote project number "ERC0076" and may be sent electronically to [submissions@aemc.gov.au](mailto:submissions@aemc.gov.au) or by mail to:

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## 2 Draft Rule Determination

### 2.1 Commission's draft Rule determination

In accordance with section 99 of the NEL, the Commission has determined to make and publish this draft Rule determination. The Commission has decided to make, with amendments, three of the draft Rules proposed by the MCE being:

- Draft Constraint Formulations Rule;
- Draft Negative IRSR Amounts Rule; and
- Draft Congestion Information Resource Rule.<sup>9</sup>

Drafts of the Rules to be made (Draft Rules) are **attached** to, and published with, this draft Rule determination.

The Commission has decided not to make the proposed Network Augmentations Rule.

### 2.2 Commission's considerations

This draft Rule determination sets out the Commission's reasons for making the Draft Rules as well as its reasons for not making the proposed Network Augmentations Rule. In making this draft Rule determination, the Commission has taken into account:

- the Commission's powers under the NEL to make the Rule;
- the CMR Final Report;
- the Rule Change Proposal and the proposed Rules;
- the Commission's analysis on the ways in which the proposed Rule will, or is likely to contribute to the National Electricity Objective (NEO) so that the statutory Rule making test is satisfied;
- relevant MCE Statements of Policy Principle;<sup>10</sup> and
- Statement of NEM Electricity Transmission.

For the reasons set out in the following chapters, the Commission is satisfied that the Draft Rules will, or are likely to, contribute to the achievement of the NEO and therefore, satisfy the Rule making test. The Commission's reasons in summary for

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<sup>9</sup> Under section 99(3) of the NEL, the draft of the Rule to be made need not be the same as the draft of the proposed Rule to which the notice under section 95 relates.

<sup>10</sup> There are no relevant MCE Statements of Policy Principles in respect of this Rule Change Proposal.

accepting that the Draft Rules contribute to the achievement of the NEO are outlined below.

Further, the Draft Rules:

- are consistent with the principles of good regulatory practice and design; and
- represent incremental changes to the NEM that are proportionate to the economic materiality of congestion.

The Commission is not satisfied that the Network Augmentations Rule satisfies the Rule making test. Its reasoning in this regard is also set out in summary form below.

### **2.2.1 Constraint Formulations Rule**

The Commission is satisfied that the Draft Constraint Formulations Rule will or is likely to contribute to the achievement of the NEO because it would lead to the more efficient operation of electricity services for the long term interests of consumers of electricity with respect to the price, quality, reliability and security of supply of electricity by:

- promoting transparency, predictability and clarity with respect to the formulation and use of constraint equations; and
- setting out the process for managing and reviewing NEMMCO's treatment of negative settlement residues.

This proposed Rule change is consistent with the MCE Statement of NEM Electricity Transmission.

### **2.2.2 Negative IRSR Amounts Rule**

The Commission is satisfied that the Draft Negative IRSR Amounts Rule will or is likely to contribute to the achievement of the NEO because it would lead to more efficient operation of electricity services in the long term interests of consumers of electricity with respect to price, quality and security of supply of electricity by promoting allocative efficiency in the NEM and improving the 'firmness' of the IRSR unit as a hedging instrument while promoting dynamic efficiency by increasing competition in the inter-regional contract market.

### **2.2.3 Congestion Information Resource Rule**

The Commission is satisfied that the Draft Congestion Information Resource Rule will or is likely to contribute to the achievement of the NEO because it would lead to more efficient operation of electricity services in the long term interests of consumers with respect to price, quality, reliability and security of supply of electricity. The Draft Congestion Information Resource Rule would promote productive efficiency by ensuring that market participants have access to a congestion information



resource that provides timely and cost-effective information on planned network events and patterns and incidence of mis-pricing in the NEM.

#### **2.2.4 Network Augmentations Rule**

The Commission considers that, as the issues raised by the proposed Network Augmentation Rule are being considered more broadly through the Commission's Review of Energy Markets in light of Climate Change Policies (Climate Change Review), implementation of the proposed Rule at this time would not be consistent with the NEO. At this stage, it would be inefficient and inconsistent with good regulatory practice to make a rule achieving a limited change, knowing that the same rule might be amended further as part of the recommendations coming out of the Climate Change Review.

### **2.3 Differences between the proposed Rules and draft Rules**

While adopting the substance of the proposed Rules included in the Rule Change Proposal, the Draft Rules differ from the proposed Rules in some respects. The modifications have been made to improve the clarity and application of the provisions. In some cases they remove redundant or unnecessary drafting. These changes are of a consequential and minor drafting nature and do not affect the rationale and intent of the proposed Rules.

Appendices A, B and C set out the amendments that have been made and are reflected in the Draft Rules.

### **2.4 Commission's power to make the Rule**

The Commission is satisfied that the proposed Rules fall within the subject matters that the Commission may make Rules as set out in section 34 of the NEL and in Schedule 1 to the NEL. The proposed Rules are all within the matters set out in section 34(1)(a) of the NEL, as they relate to regulating:

- (i) the operation of the national electricity market (NEM);
- (ii) the operation of the national electricity system for the purposes of the safety, security and reliability of that system;
- (iii) the activities of persons participating in the NEM or involved in the operation of the national electricity system.

The proposed Congestion Information Resource Rule, the proposed Network Augmentations Rule and the proposed Constraint Formulations Rule are matters addressed by item 11 of Schedule 1 of the NEL as they relate to:

- the methodology and formulae to be applied in setting these prices ; and
- the operation of generating systems, transmission systems, distribution systems or other facilities.

The proposed Negative IRSR Amounts Rule is within the matters set out in items 7 and 8 of Schedule 1 of the NEL as it relates to the setting of prices for electricity and services purchased through the wholesale exchange operating and administered by NEMMCO, including maximum and minimum prices.

The proposed Network Augmentations Rule is a matter addressed by item 26K of Schedule 1 of the NEL as it relates to the terms and conditions for the provision of electricity network services.

### 3 Commission's Methodology

This Chapter sets out the Commission's approach for assessing the Rule Change Proposal. The Commission's detailed assessment and reasons for its draft Rule determination are set out in chapters 4 to 7.

#### 3.1 Methodology

In assessing any Rule change request against the NEL criteria the first step is to consider the counterfactual arrangements against which the Rule change is being compared. In the present case, the counterfactuals are the current arrangements in the Rules.

Given the present context, this task involves reviewing the CMR Final Report for its recommendations and rationale supporting the proposed Rules. Accordingly, to assess the Rule Change Proposal the Commission's approach has been to:

- describe the proposed Rules which are the subject of the Rule Change Proposal;
- confirm the key recommendations and supporting reasoning for the proposed Rules (from the CMR Final Report);
- review and analyse the proposed Rules for their consistency with the key recommendations;
- review and analyse the proposed Rules for their clarity and consistency with the Rules more generally, particularly given the commencement of Rules since the completion of the CMR Final Report, and other developments, such as the Commission's Climate Change Review; and
- assess the proposed Rules, together with any amendments, against the NEO.

#### 3.2 Rule making test and the National Electricity Objective

The Rule making test states that 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.<sup>11</sup> The objective of the NEL 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:

- price, quality, safety, reliability and security of supply of electricity; and
- the reliability, safety and security of the national electricity system.<sup>12</sup>

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<sup>11</sup> See section 88(1) of the NEL

<sup>12</sup> See section 7 of the NEL

It is the Commission's view that the NEO is founded on the concepts of economic efficiency (including productive, allocative and dynamic dimensions of efficiency), good regulatory practice (which refers to the means by which regulatory arrangements are designed and operated) as well as reliability, safety and security priorities.

In the its Rule Change Proposal the MCE stated that the proposed Rule changes represent incremental changes that:

- are consistent with the current National Electricity Market (NEM) design;
- look to improve the provision of information;
- strengthen existing risk management instruments;
- improve the clarity of the dispatch process and rules around transmission augmentation; and
- provide greater transparency, predictability and certainty around the formulation, development and use of constraint equations and existing hedging instruments.<sup>13</sup>

The MCE states that the proposed Rule changes are a step towards establishing an effective congestion management regime that will promote efficient outcomes by assisting energy market participants to manage risks and make informed decisions and as such the proposed Rules contribute to the achievement of the NEO.<sup>14</sup>

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<sup>13</sup> Rule Change Proposal, Part 2, p 5.

<sup>14</sup> Rule Change Proposal, Part 2, p 5.

## **4 Draft National Electricity Amendment (Fully Co-optimised and Alternative Constraint Formulations) Rule 2009**

The MCE has requested that the proposed Constraint Formulations Rule be progressed based on the recommendations advanced by the Commission as part of the CMR. Prior to considering the proposed Constraint Formulations Rule in detail, the key recommendations and reasoning supporting the proposed Constraint Formulations Rule are summarised below in sections 4.1 - 4.3. The proposed Constraint Formulations Rule is assessed in sections 4.4 - 4.8 below.

For present purposes, the Commission remains of the view that the recommendations contained in the CMR Final Report are current, relevant and present a sound basis from which to assess the proposed Constraint Formulations Rule.

### **4.1 Description of proposed Constraint Formulations Rule**

The proposed Constraint Formulations Rule would formalise NEMMCO's use of fully co-optimised representation of network constraints whenever practicable with the use of an Alternative Constraint Formulation (ACF) in exceptional circumstances. It would require NEMMCO to develop, publish and comply with Network Constraint Formulation Guidelines (Guidelines) and set out its policy for managing negative settlement residues.

The CMR Final Report summarises the recommendations in relation to the Constraint Formulations Rule as follows:

#### **Formalising constraint formulation**

- NEMMCO should be obliged to formally use a 'fully co-optimised constraint formulation' in representing network constraints in dispatch whenever practicable.
- NEMMCO should be able to use an ACF in exceptional circumstances, which are pre-defined in its Guidelines.

#### **Guidelines for developing, modifying and implementing constraint equations**

- NEMMCO should develop, publish and comply with Guidelines that articulate the methodology and processes NEMMCO would use for developing, formulating and implementing both fully co-optimised and alternative constraint formulations. The Guidelines should set out how market participants would be informed of these processes. NEMMCO should develop these Guidelines in accordance with the Rules consultation procedures.

## Managing Negative Settlements Residues

- The Guidelines should include NEMMCO's policy for how to manage the accumulation of negative settlements residues, including its intervention trigger if required.
- The Commission should conduct a review within 3 years of the operation of the proposed Rule to evaluate how NEMMCO manages negative settlements residue through intervening in dispatch.

## 4.2 Reasoning for the Constraint Formulations Rule

The reason for this proposed Rule change is to increase the transparency and accountability of NEMMCO with respect to the development, formulation and use of network constraint equations. Through the provision of such information, the capacity of market participants to predict and respond to changes in dispatch related to changes in the constraint equations used in the market system would be enhanced. It would thus improve the decision-making of market participants.

### 4.2.1 Formalising constraint formulation

The physical limits of the network are represented mathematically in NEMDE (NEMMCO's linear program dispatch engine) as constraint equations.<sup>15</sup> These constraint equations have a left-hand side (LHS) and a right-hand side (RHS). Terms on the LHS can be directly controlled by NEMMCO whereas terms on the RHS cannot be controlled. During the dispatch process, NEMMCO uses these constraint equations to define the set of permissible solutions. As changes occur in the physical network, NEMMCO adjusts the constraint equations to reflect those changes. This adjustment could, for example, involve changing a limit or replacing a constraint equation. The formulation of these constraint equations directly affects the way in which generation and load are dispatched, and therefore has significant commercial consequences.

For this reason it is important that NEMMCO is consistent and transparent in how it formulates constraint equations. Market participants also need to understand how NEMMCO develops and implements new constraint equations and modifies existing ones, if they are to understand the commercial implications of security-constrained dispatch.

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<sup>15</sup> Constraint equations provide mathematical descriptions of the physical network. They explain how different variables in the market affect flows across the network. NEMMCO uses constraint equations in the dispatch process and changes them to reflect changes in the available network. The process of designing constraint equations is known as constraint formulation. A 'fully co-optimised' formulation is a form of constraint that gives NEMMCO the ability to control the most number of variables in the dispatch process.

From July 2004, NEMMCO began to adopt the fully co-optimised constraint formulation for all constraint equations. In this formulation, all terms are placed on the LHS and therefore may be directly controlled by NEMDE. Having direct control of as many of the variables in the dispatch process as possible allows NEMMCO to achieve a more optimal dispatch of all possible control variables and thereby improves NEMMCO's ability to manage system security. More efficient use of the network improves NEMMCO's ability to maintain supply reliability and can lead to a lower dispatch cost.

In May 2005, the MCE endorsed NEMMCO's formal adoption of the fully co-optimised constraint formulation.<sup>16</sup> The MCE also endorsed this constraint formulation in the Terms of Reference for the Commission's CMR. As the fully co-optimised constraint formulation is endorsed by the MCE and most market participants supported formalising the requirement that NEMMCO uses this formulation, the CMR Final Report recommended that the constraint formulation be formalised in Chapter 3 of the Rules.

In some exceptional circumstances NEMMCO currently uses an ACF that is not fully co-optimised. NEMMCO uses ACFs where they will deliver greater security in the power system compared to using a fully co-optimised constraint formulation.<sup>17</sup> While it is important for the system operator to have a level of flexibility in the Rules to use an ACF, it is also important for market participants to have certainty around what constraint formulation NEMMCO will use in dispatch. To this end, the CMR Final Report recommended that an ACF only be deployed under defined circumstances in accordance with certain 'guidelines'. These Guidelines would detail the circumstances in which an ACF can be used to meet system security requirements and describe what ACFs may be used.<sup>18</sup>

In summary, NEMMCO would only be able to use an ACF in circumstances that it has identified in the Guidelines and that will not adversely affect power system security or supply reliability. This would provide clarity and transparency on the specific circumstances under which NEMMCO would use an ACF.

#### **4.2.2 Guidelines for developing, modifying and implementing constraint equations**

At present, the various methodologies and processes for constraint equation formulation and use are contained in various NEMMCO documents. There is no requirement in the Rules for NEMMCO to follow or apply these documents. This means the requirements to keep participants informed during the processes are also quite limited.

These various documents should be consolidated into a set of guidelines, giving market participants sufficient information to understand NEMMCO's methodology for formulating constraint equations, its process for developing them, and its process

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<sup>16</sup> MCE 2005, Statement on NEM Electricity Transmission.

<sup>17</sup> AEMC 2008, *Final Report*, Congestion Management Review, June 2008, Sydney p 119.

<sup>18</sup> AEMC 2008, *Final Report*, Congestion Management Review, June 2008, Sydney p 120.

for using them.<sup>19</sup> This, in turn, would assist participants to assess the impact of constraints on dispatch and pricing. NEMMCO should develop these guidelines in consultation with stakeholders and, once the Guidelines are published, NEMMCO should be obliged to comply with them. This would facilitate any review as to whether there are any inconsistencies in NEMMCO's application of its methodology and processes. NEMMCO is to amend these guidelines as necessary.

#### **4.2.3 Managing Negative Settlements Residues**

The proposed Rule Change provides that NEMMCO should develop guidelines that, among other things, identify its policy on how it will manage negative settlements residues.

In order to ensure that NEMMCO's use of this intervention is as transparent, certain and predictable as possible, the CMR Final Report recommended that NEMMCO should set out, in the Guidelines, its policy for when and how it would intervene in the market to manage negative settlements residues, including setting its intervention threshold. This policy could also include reporting on the frequency of its intervention and reasons for it. A higher threshold trigger would provide more time for NEMMCO to notify the market of its intention to intervene. This fact combined with a clearly articulated policy for intervention, would provide greater clarity around when and how NEMMCO would intervene in dispatch to manage negative settlement residues.

The proposed Rule Change would also require the Commission to review, within three years, the efficiency of NEMMCO's intervention policy for managing the accumulation of negative settlement residues, including the intervention threshold level and whether there is a need to intervene at all.

#### **4.3 Outcomes of the CMR Final Report regarding the Constraint Formulations Rule and their continued relevance**

Prior to finalising the recommendations regarding the proposed Constraint Formulations Rule (and the other recommendations contained in the CMR Final Report) the Commission undertook an extensive review process as part of the CMR. The Commission consulted extensively with market participants and other stakeholders at various stages and engaged expert advice as required to inform its decision making. Its process was consistent with the MCE terms of reference.

In this regard the CMR recommendations and rationale present a sound and robust basis to consider the proposed Constraint Formulations Rule which is the subject of this Rule Change Proposal.

A number of developments have occurred and are ongoing since the completion of the CMR Final Report; in particular, the Climate Change Review. At the time of writing, these developments do not appear to require any amendments to the

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<sup>19</sup> AEMC 2008, *Final Report*, Congestion Management Review, June 2008, Sydney p 122.



proposed Constraint Formulations Rule or impact on the validity or relevance of the CMR recommendations as a basis for considering the proposed Constraint Formulations Rules.

#### **4.4 Consistency of proposed Constraint Formulations Rule with CMR Final Report**

In this section and the subsequent sections below the Commission reviews the proposed Constraint Formulations Rule for its consistency with:

- the recommendations from the CMR Final Report (as set out in section 4.1 to 4.3 above); and
- the Rules more generally, particularly given the commencement of Rules since the completion of the CMR Final Report and other developments.

Following this, the Commission assesses the proposed Constraint Formulations Rule against the Rule making test.

The proposed Constraint Formulations Rule is consistent with the recommendations and rationale contained in the CMR Final Report. It is reflective of the benefits referred to in the CMR Report including:

- improving the clarity of the dispatch process;
- providing greater transparency and predictability around the formulation, development and use of constraint equations;
- providing greater certainty for market participants as to how these constraint factors will impact on their own dispatch; and
- improving NEMMCO's ability to manage power system security and supply reliability and to utilise the network more fully during the dispatch process.

The proposed Constraint Formulations Rule would involve the following amendments to the Rules:

- replacement of existing clauses 3.8.1(b), 3.8.10, 3.7.2(c)(3), 3.7.2(d)(3), 3.9.7(a) and 3.13.8(a)(5); and
- insertion of new definitions and deletion of existing definitions in the glossary.

The proposed Constraint Formulations Rule is explained in detail below.

#### **4.5 Description of proposed Constraints Formulation Rule**

The key elements of the proposed Constraints Formulation Rule are set out below.

#### **4.5.1 Requirement to use a Fully Co-optimised Network Constraint Formulation or to use an Alternative Constraint Formulation**

Clause 3.8.10(b) sets out the requirement that NEMMCO must determine and represent network constraints in dispatch which may result from limitations on intra-regional or inter-regional power flows using a fully co-optimised network constraint formulation.

Clause 3.8.10(e) enables NEMMCO to apply an alternative network constraint formulation if, in its reasonable opinion, a fully co-optimised network constraint formulation is not appropriate. NEMMCO may apply an alternative constraint formulation if:

- it has previously identified in its network constraint formulation guidelines that it may use an alternative network constraint formulation (Clause 3.8.10(e)(i)); and
- it reasonably considers it can apply an alternative network constraint formulation without prejudicing its obligation in operating central dispatch (Clause 3.8.10(e)(ii)).

#### **4.5.2 Requirement to publish Network Constraint Formulation Guidelines**

Clause 3.8.10(c) sets out a requirement for NEMMCO to develop, publish and where necessary, amend network constraint formulation guidelines to address the following matters:

- the circumstances in which NEMMCO will use an alternative network constraint formulation (Clause 3.8.10(c)(i));
- the process by which NEMMCO will identify or be advised of a requirement to create or modify a network constraint equation (Clause 3.8.10(c)(ii));
- the methodology to be used by NEMMCO in selecting the form of a network constraint equation (Clause 3.8.10(c)(iii));
- the process to be used by NEMMCO for applying, invoking and revoking constraint equations in respect of different types of network constraints (Clause 3.8.10(c)(iv)); and
- NEMMCO's policy in respect of the management of negative settlements residues (Clause 3.8.10(c)(v)).

#### **4.5.3 Management of Negative Settlements Residues including a review**

As stated above, Clause 3.8.10(c)(v) requires that NEMMCO state its policy with respect to the management of negative settlements residues by intervening in the

central dispatch process through the use of fully co-optimised network constraint formulations.

Clause 3.8.10(g) requires the Commission to commence a review in respect of the efficiency with which NEMMCO is managing negative settlements residue amounts within three years of the Constraint Formulations Rule coming into operation.

## **4.6 Proposed Amendments**

The Commission is proposing largely to adopt the MCE's proposed Constraint Formulations Rule, as described above subject to a small number of amendments of a drafting and consequential nature to improve the clarity and application of the proposed Rule. Some amendments also remove redundant provisions. The amendments to the proposed Constraint Formulations Rule are marked up in an extract contained in Appendix A.

## **4.7 Statement on NEM Electricity Transmission**

In 2005 the MCE released a Statement on NEM Electricity Transmission<sup>20</sup> where it expressed the view that NEMMCO should adopt a fully co-optimised direct physical representation where it can control all the variables affecting dispatch. This Rule Change is consistent with this Statement, as it formalises the requirement for NEMMCO to use the fully co-optimised network constraint formulation.

## **4.8 Rule making Test**

The Commission is satisfied that the Draft Constraint Formulations Rule will or is likely to contribute to the achievement of the NEO because it would lead to the more efficient operation of electricity services for the long term interests of consumers of electricity with respect to the price, quality, reliability and security of supply of electricity by:

- promoting transparency, predictability and clarity with respect to the formulation and use of constraint equations; and
- setting out the process for managing and reviewing NEMMCO's treatment of negative settlement residues.

The Draft Constraint Formulations Rule :

- introduces clarity, transparency and predictability in the formulation of constraint equations within the dispatch process. The Draft Rule clarifies that the default position for constraint equations is a fully co-optimised constraint equation with an alternative constraint formulation available only in exceptional circumstances. The Draft Rule introduces transparency and predictability by requiring NEMMCO to develop, publish and apply Network Constraint

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<sup>20</sup>MCE 2005, Statement of NEM Electricity Transmission

Formulation Guidelines and, in so doing, should aide in more informed decision making among market participants.

- ensures that the formulation of constraint equations, the circumstances under which the formulations will be used and the guidelines that NEMMCO must comply with are transparent and clear to all market participants, which is consistent with good regulatory practice.
- would allow NEMMCO to intervene in dispatch to manage accumulation of negative settlement residues, require it to publish its intervention policy, and require the Commission to undertake a review of the intervention policy effectiveness after three years of its operation to assess its further need, which is also consistent with good regulatory practice.

## **5 Draft National Electricity Amendment (Negative Inter-regional Settlements Residue Amounts) Rule 2009**

The MCE has requested that the proposed Negative IRSR Amounts Rule be progressed based on the recommendations advanced by the Commission as part of the CMR. Prior to considering the proposed Negative IRSR Amounts Rule in detail, the key recommendations and reasoning supporting the proposed Constraint Formulations Rule are summarised below in sections 5.1 – 5.3. The proposed Negative IRSR Amounts Rule is assessed in sections 5.4 – 5.7 below.

For present purposes, the Commission remains of the view that the recommendations contained in the CMR Final Report are current, relevant and present a sound basis from which to assess the proposed Negative IRSR Amounts Rule.

### **5.1 Description of proposed Negative IRSR Amounts Rule**

The proposed Negative IRSR Amounts Rule would amend the Rules governing the funding of negative settlements residues so as to reduce uncertainty for holders of IRSR units.

The CMR Final Report states that rather than being netted-off against positive settlement residues within the same billing week, and then any outstanding amount being recovered from Settlement Residue Auction (SRA) proceeds, they should be recovered directly from the importing region's TNSP.<sup>21</sup>

### **5.2 Reasoning for the Negative IRSR Amounts Rule**

The reason for this Rule change is to improve the usefulness of the IRSR unit as an instrument to hedge financial risk associated with material network congestion. This should enable generators, retailers and large users to trade more efficiently across regions, thus increasing the extent of competition in the contract market across regions in the NEM and maximising the net economic benefit to all those who produce, consume and transport electricity in the market.

The detailed reasoning supporting the key recommendations in relation to the Negative IRSR Amounts Rule is set out below.

#### **5.2.1 Inter-Regional Settlement Residue**

The NEM is divided into separate regions that are connected by inter-regional transmission. A spot price is determined at each regional reference node. Inter-regional price differences arise due to inter-regional constraints, and transmission losses. NEMMCO explains this process, which is outlined below.

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<sup>21</sup>AEMC 2008, *Final Report, Congestion Management Review*, June 2008, Sydney, p 26.

The IRSR is the result of inter-regional price differences and inter-regional power flows.<sup>22</sup> It typically arises when Market Customers pay more than the supplying Generators are required to receive.<sup>23</sup>

IRSR is effectively a pool of funds that eligible Registered Participants can gain access to by bidding in auctions. Auctions give eligible Registered Participants access to IRSR by enabling them to bid for Units (shares in a proportion of the total IRSR amount), however, due to the many variables affecting settlements residue, bidding for Units is speculative.<sup>24</sup>

The SRA is conducted in the month proceeding the beginning of each calendar quarter, making settlements residue available to the marketplace. In accordance with the Rules, proceeds from each auction are paid to the relevant Transmission Network Service Provider to be ultimately allocated to electricity customers through reduced network charges.<sup>25</sup>

Currently, SRA participants can bid for units up to one year in advance. There are units for every regulated interconnector in the NEM, in both directions. This enables participants to hedge price differences between all regions in both directions. The single exception is Tasmania where there are no IRSRs attributable to flows between Tasmania and Victoria.<sup>26</sup>

### **5.2.2 Basis risk arises from congestion**

When congestion arises between regions, the price between those regions diverges. Basis risk (otherwise known as financial or price risk) arises when the settlement price a participant pays (or receives) diverges from the *contract* price the participant agreed to. In the NEM, generators, large users and retailers face basis risk when trading between regions.

Participants use financial instruments to help manage this inter-regional basis risk. Their willingness to contract between regions depends on:

- the ability to obtain risk management instruments; and
- the usefulness of those instruments in managing the risk.

To the extent that participants can access instruments, and that these instruments provide an acceptable hedge cover, participants may choose to trade inter-regionally. If participants cannot obtain sufficient hedge cover, they may choose not to contract

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<sup>22</sup> NEMMCO, 2008, *Settlements Residue Auction Information Memorandum 1 July 2008*, p.11

<sup>23</sup> NEMMCO, 2008, *Settlements Residue Auction Information Memorandum 1 July 2008*, p.7

<sup>24</sup> NEMMCO, 2008, *Settlements Residue Auction Information Memorandum 1 July 2008*, p.7

<sup>25</sup> NEMMCO 2009, *Overview of the NEM*, Chapter 8. Further details of the operation of the SRA and worked examples showing relevant calculations can be found in NEMMCO, 2008, *Settlements Residue Auction Information Memorandum 1 July 2008*, p.11-32.

<sup>26</sup> Tasmania is connected to the NEM through a Market Network Service Provider (MNSP), which is not regulated. There are no IRSRs attributed to flows across Basslink.

across regions. This can reduce the potential contracting pool at load centres, which limits the extent of competition in the contract market.

IRSR units would provide a reliable hedge against inter-regional price differences if a party wishing to trade between two regions could predict with certainty the level and direction of flow on the directional interconnector when there was a price difference between the regions. The volume of reliable hedging residue available would depend on the interconnector flow when there was a price difference.

### **5.2.3 Negative IRSR currently impacts on market efficiency**

Sometimes the dispatch produces an outcome in which electricity flows from a higher-priced region to a lower-priced region as a result of network constraints. This will create a “negative” settlement residue.

Currently, the negative settlements residues are netted-off against positive settlements residues within the same billing week for each same-direction interconnector. This reduces the positive residues available for distribution to unit holders. If any negative settlement residues remain after the netting-off, they are recovered from SRA proceeds for the same-direction interconnector. The current mechanism for funding negative settlement residues has the effect of reducing the value of IRSR units as an inter-regional hedging instrument.<sup>27</sup>

These arrangements for funding negative settlements residues can affect the “firmness” of IRSR units as an effective mechanism for managing inter-regional basis risk. There are two separate effects at work:

1. at times of counter-price flows, positive residues are not accumulating on the directional interconnector from the lower-priced to the higher-priced region; and
2. positive residues that would otherwise be payable to holders of units in the directional interconnector going the other way, may be used to fund the negative residues (in the same billing week).

Hence, the IRSR units may be made less firm in both directions of an interconnector by a single incident of negative residues accumulating.<sup>28</sup>

During the CMR many participants expressed concern that the existing IRSR instrument was not sufficiently effective and lacked firmness. It was clear that the lack of firmness provided by IRSR units could reduce the willingness of parties to trade inter-regionally and thereby detract from the liquidity of contract markets, in terms of volumes of contracts and numbers of contracting parties.

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<sup>27</sup> AEMC 2008, *Final Report, Congestion Management Review*, June 2008, Sydney, p 27.

<sup>28</sup> AEMC 2008, *Final Report, Congestion Management Review*, June 2008, Sydney, p 162.

#### **5.2.4 Improving the IRSR as a risk management instrument**

The current funding mechanism for negative settlements residues reduces the value of IRSR units as an inter-regional hedging instrument and can adversely impact on the ability of participants to trade efficiently across regions.

Directly billing the relevant TNSP, who would then recover these costs through charges to its customers, would be a more direct and transparent way to recover negative settlements residues than via auction proceeds. This direct billing arrangement would also give NEMMCO the flexibility to recover negative settlement residues in a timely manner rather than having to wait for the quarterly auctions.

Currently the Rules arbitrarily distinguish between funding negative settlements residues, which occur in the same billing week as positive settlement residues, and funding those which do not occur in the same billing week. Removing this intra-week netting-off would mean that unit holders would retain the full value of residues accumulated from other events during a week, which would thereby improve the IRSR as a risk management instrument. The value of IRSR units would no longer be diluted because of events resulting in negative settlement residues.

Though it was very difficult to quantify the impacts of increasing IRSR firmness on inter-regional trade, it was reasonable to infer that improvements to the effectiveness of the hedging instruments would lead to greater inter-regional trading.<sup>29</sup>

### **5.3 Outcomes of the CMR Final Report regarding the Negative IRSR Amounts Rule and their continued relevance**

For the same reasons as those set out in section 4.3 above, the CMR recommendations and rationale present a sound and robust basis from which to consider the proposed Negative IRSR Amounts Rule which is the subject of this Rule Change Proposal.

Section 4.3 also referred to other possible relevant developments. As for the proposed Constraints Formulations Rule, at the time of writing, these developments do not appear to require any amendments to the proposed Negative IRSR Amounts Rule or impact on the validity or relevance of the CMR recommendations as a basis for considering the proposed Negative IRSR Amounts Rule.

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<sup>29</sup> AEMC 2008, *Final Report*, Congestion Management Review, June 2008, Sydney, p 161.



## **5.4 Consistency of proposed Negative IRSR Amounts Rule with CMR Final Report**

In this section and the subsequent sections below the Commission reviews the proposed Negative IRSR Amounts Rule for its consistency with:

- the recommendations from the CMR Final Report (as set out in section 5.1 to 5.3 above); and
- the Rules more generally, particularly given the commencement of Rules since the completion of the CMR Final Report and other developments.

Following this, the Commission assesses the proposed Negative IRSR Amounts Rule against the Rule making test.

The proposed Negative IRSR Amounts Rule is consistent with the recommendations and rationale contained in the CMR Final Report. It is reflective of the benefits referred to in the CMR Report, especially reducing uncertainty for holders of IRSR units.

The proposed Negative IRSR Amounts Rule would involve the following amendments to the Rules:

- replacing existing clauses 3.6.5(a)(4), 3.6.5(a)(4A) and 3.6.5(a)(4B) with revised clauses;
- removing clause 3.6.5(c);
- minor updates to ensure consistency of the Rules with the revisions; and
- related savings and transitional arrangements.

The proposed Negative IRSR Amounts Rule is explained in detail below.

## **5.5 Description of proposed Negative IRSR Amounts Rule**

The key elements of the proposed Negative IRSR Amounts Rule are set out below.

### **5.5.1 Recovering negative settlement residues amounts from the appropriate TNSP**

Clauses 3.6.5(a)(4), 3.6.5(a)(4A) and clause 3.6.5(a)(4B) currently require NEMMCO to recover any negative settlements residues by netting-off against positive settlement residues within the same billing week, and then by recovering any outstanding amount, including unrecovered interest costs, from SRA proceeds.

The proposed Negative IRSR Amounts Rule revises these arrangements and requires:

- that NEMMCO recover negative settlement residues from the appropriate TNSP in the importing region (clause 3.6.5(a)(4));
- that NEMMCO recover funding for any interest costs incurred in relation to unrecovered negative settlements residue amounts from the appropriate TNSP in the importing region (clause 3.6.5(a)(4A)); and
- that the Australian Energy Regulator will be responsible for determining the appropriate TNSP to be charged (clause 3.6.5(a)(4B)).

This Rule would also enable NEMMCO to set a new TNSP settlement cycle for recovering negative settlements residues. This would ensure that NEMMCO could recover the negative settlements residues from the appropriate TNSP in advance of the normal market settlement day, thereby preventing any potential shortfalls should the TNSP be late or miss a payment.

### **5.5.2 Updates, savings and transitional arrangements**

Clause 3.6.5.(c) is a sunset clause relating to the current arrangements for managing negative IRSR. It will become redundant once the proposed Negative IRSR Amounts Rule comes into force.

Minor consequential changes to clauses 3.15.1 and 3.18.4 ensure that the Rules are consistent with NEMMCO managing the transactions arising through recovering negative settlement residues amounts from the appropriate TNSP.

Changes to Rule 11.1 make relevant savings and transitional arrangements to bring the proposed Negative IRSR Amounts Rule into force.

## **5.6 Proposed amendments**

The Commission is proposing largely to adopt the MCE's proposed Negative IRSR Amounts Rule, as described above, subject to a number of minor amendments of a drafting nature to improve the clarity and application of the proposed Rule. The amendments to the proposed Negative IRSR Amounts Rule are marked up in an extract contained in Appendix B.

## **5.7 Commission's Assessment and the Rule making Test**

The Commission is satisfied that the Draft Negative IRSR Amounts Rule will or is likely to contribute to the achievement of the NEO because it would lead to more efficient operation of electricity services in the long term interests of consumers of electricity with respect to price, quality and security of supply of electricity. The Draft Negative IRSR Amounts Rule would promote allocative efficiency in the NEM and improve the 'firmness' of the IRSR unit as a hedging instrument. The Draft Negative IRSR Amounts Rule would also promote dynamic efficiency by increasing competition in the inter-regional contract market.

## **6 Draft National Electricity Amendment (Congestion Information Resource) Rule 2009**

The MCE has requested that the proposed Congestion Information Resource Rule be progressed based on the recommendations advanced by the Commission as part of the CMR. Prior to considering the proposed Congestion Information Resource Rule in detail, the key recommendations and reasoning supporting the proposed Congestion Information Resource Rule are summarised below in sections 6.1 – 6.3. The proposed Congestion Information Resource Rule is assessed in sections 6.4 – 6.7 below.

For present purposes, the Commission remains of the view that the CMR recommendations contained in the CMR Final Report are current, relevant and present a sound basis from which to assess the proposed Congestion Information Resource Rule.

### **6.1 Description of the proposed Congestion Information Resource Rule**

The proposed Congestion Information Resource Rule requires NEMMCO to publish a CIR in accordance with Congestion Information Resource Guidelines that will provide periodically updated information to the market on planned network events affecting dispatch along with information on historical patterns and incidence of mispricing. An interim CIR has also been proposed for the short term.

The objective of the CIR is to provide information in a cost effective manner to market participants to enable them to understand patterns of network congestion and make projections of market outcomes in the presence of network congestion. This will enable market participants to be more informed when making contracting and investment decisions in the presence of network congestion.

#### **6.1.1 Publication of real-time information on planned network events**

This Rule change proposes that the CIR would include periodically updated information on planned network events that affect dispatch. Planned network events have been defined to include the following:

- network outages;
- the connection or disconnection of generating units or load;
- the commissioning or decommissioning of a network asset; and
- the provision of new or modified network control ancillary services; and
- the provision of services under network support agreements.

Publication of this information, including regular updating of this information, will assist in more informed decision making by both policy makers and market participants, while assisting in congestion management in the longer term.

The availability of this information is also an important factor in strengthening the value of IRSR units by improving the reliability and predictability of transmission capability. If participants can accurately predict interconnector transfer limits, then with a high degree of certainty they can determine the required number of IRSR units necessary to hedge an inter-regional position.

### **6.1.2 Publication of information on patterns and incidence of mis-pricing**

This Rule change proposes that the CIR would include historical data on mis-pricing which pertains to the incidence of congestion in the NEM. The Commission has clarified the definition of mis-pricing; it is now defined as the difference between the Regional Reference Price (RRP) and an estimate of the marginal value of supply. The Commission considers that publishing such information will be useful in identifying points of congestion and assist investors in their decision-making process.

## **6.2 Reasoning for the Congestion Information Resource Rule**

The reason for this Rule change is that provision of timely and accurate information with respect to planned network events and outages will significantly assist market participants, including investors, in identifying, understanding and ultimately responding to risks arising from transmission network congestion in a strategic and informed manner.

### **6.2.1 Current Information on planned network events**

Market participants need to take measures to manage the impact of constraints, and when they cannot accurately predict the timing of constraints, they find themselves exposed to both physical and financial risk.

Currently, NEMMCO and TNSPs advise participants about network outages through several publications. These are the Planned Network Outage (PNO) information, the Network Outage Schedule (NOS), and Market Notices. The NOS is currently published by NEMMCO voluntarily. The NOS and PNO information provide market participants with information that is very important to their commercial and operational decisions.

Given the importance of outage information for market outcomes, the CMR Final Report considered that the Rules should require NEMMCO to publish the information in the NOS and continue to require NEMMCO to publish the PNO information. This information will enable participants to understand, predict, and appropriately respond to those events.

The NOS and the PNO information report on network outages only. There are other types of “events” that affect network constraints. Other factors affecting which constraints NEMMCO invokes include the completion of a network augmentation, the commissioning of a new generator, the decommissioning of an old plant, or the connection of a new industrial load. These factors change the way electricity flows across the network and therefore require new constraint equations to represent the new network configuration. Events such as these can affect which constraint

equations are used by NEMMCO and, therefore, a market participant's ability to understand and manage those trading risks associated with network congestion.

## **6.2.2 Need for further information on planned network events**

At present, there is an information gap for some events which affect constraints for market participants. For example, a TNSP may decide to augment a particular part of the network and will notify the market of this through its Annual Planning Report (APR). For some augmentations, the next time the market hears about the progress of this network change is through a Market Notice from NEMMCO notifying participants about a new constraint equation reflecting this network investment. This gap in information can span several months. Throughout this period, participants face uncertainty over the process between the decision to invest in the network and the inclusion of the new constraint equation reflecting the augmented network into the constraint library, where NEMMCO can use it in market dispatch.

The CMR Final Report noted that greater clarity and predictability regarding the impact of a TNSP's actions on likely transfer capability, and on the ultimate expression of this in constraint equations, will be of considerable benefit to participants.<sup>30</sup> It was recommended that NEMMCO should be required to publish information about events (including but not limited to network outages) that may result in different constraint equations being formulated and/or invoked. These events include: network outages; the connection and disconnection of generating units or load; the commissioning (and decommissioning) of new network assets and new or modified NCAS; and network support agreements. Collectively, these events will be defined in the Rules as "planned network events". Information on planned network events will help provide a richer and more continuous flow of information to participants about how these events may affect network capability.

The CMR Final Report recommended that NEMMCO publish information to improve the ability of participants to track and predict changes to the timing of outages and to understand the reasons for changes to outage start and end dates.<sup>31</sup> The NOS does not currently provide all this information. Such information may also place greater discipline on TNSPs and/or NEMMCO to schedule accurately outages, as far as practicable.

NEMMCO currently does not issue market notices to inform market participants when constraints affecting network transfers purely within a region are changed (e.g. when a distribution asset is returned to service following an outage). Market participants have indicated that in order to ascertain when they will be affected by such transfer limits, they rely on informal relationships with network businesses. The recommendations on publishing information on outages will help address this problem.

The CMR Final Report recommended that NEMMCO should develop and publish information that enables market participants to understand patterns of network

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<sup>30</sup> AEMC 2008, *Final Report, Congestion Management Review*, June 2008, Sydney, p 208.

<sup>31</sup> AEMC 2008, *Final Report, Congestion Management Review*, June 2008, Sydney, p 209.

congestion.<sup>32</sup> This includes information to help predict the nature and timing of events that are likely to affect materially what constraints NEMMCO uses in dispatch. This information will be included in a dedicated CIR, which will also include information on mis-pricing, which is discussed next.

### **6.2.3 Information on Mis-pricing**

During the CMR process, the Commission recommended that NEMMCO should publish information on mis-pricing. The information could:

- be in the form of published nodal prices *or* differences between the RRP and nodal prices;
- identify whether the constraint that caused the mis-pricing was an outage constraint or a system normal constraint; and
- identify the network element or cut-set on which the limitation arose.<sup>33</sup>

The routine publication of mis-pricing information will be valuable in identifying specific points of congestion, where targeted measures, like network support agreements, could be implemented to assist in the management of congestion. Mis-pricing information will assist participants in identifying areas where they themselves can negotiate such agreements.

Investors will also find value in mis-pricing information as a tool in their decision-making processes. While investment locational decisions are based on a range of factors including access to fuel and water and environmental considerations, access to transmission is also important. Information on mis-pricing will help inform investment location decisions, identifying possible congested areas and therefore prompting a comprehensive assessment of congestion at a preferred location.

## **6.3 Outcomes of the CMR Final Report regarding Congestion Information Resource Rule and their continued relevance**

For the same reasons as those set out in section 4.3 above, the CMR recommendations and rationale present a sound and robust basis from which to consider the proposed Congestion Information Resource Rule which is the subject of this Rule Change Proposal.

Section 4.3 also referred to other possible relevant developments. The Commission notes that some of the recommendations contained in its Final Report on the National Transmission Planner Review would interact with this Rule Change insofar as the National Transmission Network Development Plan contains a summary of the information contained in the proposed Congestion Information Resource.

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<sup>32</sup> AEMC 2008, *Final Report*, Congestion Management Review, June 2008, Sydney, p 210.

<sup>33</sup> AEMC, Directions Paper, Congestion Management Review, 12 March 2007, p.60.

As for the proposed Constraint Formulations Rule, at the time of writing, these developments do not appear to require any amendments to the proposed Congestion Information Resource Rule or impact on the validity or relevance of the CMR recommendations as a basis for considering the proposed Congestion Information Resource Rule.

#### **6.4 Consistency of proposed Congestion Information Resource Rule with CMR Final Report**

In this section and the subsequent sections below the Commission reviews the proposed Congestion Information Resource Rule for its consistency with:

- the recommendations from the CMR Final Report (as set out in sections 6.1 to 6.3 above); and
- the Rules more generally, particularly given the commencement of Rules since the completion of the CMR Final Report and other developments.

Following this, the Commission assesses the proposed Congestion Information Resource Rule against the Rule making test.

The proposed Congestion Information Resource Rule is consistent with the recommendations and rationale in the CMR Final Report. The proposed Rule is reflective of the benefits referred to in the CMR Final Report including:

- providing a cost effective information resource to market participants to enable them to understand the patterns of network congestion and make projections of market outcomes in the presence of network congestion;
- providing information to participants to help them understand how the network's available network capability may change due to planned network events such as outages;
- strengthening the value of IRSR units by improving the reliability and predictability of transmission capability; and
- requiring NEMMCO to publish information on the incidence of congestion using historical data on mis-pricing.

The proposed Congestion Information Resource Rule would involve the following amendments to the Rules:

- replacement of Rule 3.7A with a new Rule;
- insertion of a new clause 3.13.4(y);
- insertion of certain new definitions and the deletion of certain existing definitions in the glossary; and
- insertion of savings and transitional arrangements in Chapter 11.

The proposed Congestion Information Resource Rule is explained in detail below.

## **6.5 Description of proposed Congestion Information Resource Rule**

The key elements of the proposed Congestion Information Resource Rule are set out below.

### **6.5.1 Requirements for a Congestion Information Resource**

Clause 3.7A(a) contains the “congestion information resource objective”, which defines the purpose of such an information resource.

Clause 3.7A(b) specifies what type of information the CIR will contain, being:

- information on planned network events (Clause 3.7A(b)(1));
- information on the incidence of congestion in the NEM through the provision of historical data on mis-pricing (Clause 3.7A(b)(2)); and
- any other relevant information reasonably required to implement the congestion information resource objective (Clause 3.7A(b)(3)).

Clauses 3.7A(e) to (g) provide for the updating of the information contained in the CIR.

### **6.5.2 Requirements for Congestion Information Resource Guidelines**

Clause 3.7A(d)(2) states that the CIR will be developed and amended from time to time in accordance with the congestion information resource guidelines.

Clause 3.7A(k) states that NEMMCO is obliged to develop and publish these congestion information resource guidelines and stipulates the content of such guidelines.

### **6.5.3 Requirements for Information of Transmission Network Service Providers**

Clause 3.7A(n) requires, among other things, that the information to be provided by TNSPs to NEMMCO must clearly identify confidential information and be in accordance with the congestion information resource guidelines.

Clause 3.7A(o) requires a TNSP to provide revised information to NEMMCO if there has been a material change in the information it initially provided.

Clause 3.7A(p)(1) states that the information provided by (or derived from information provided by) TNSPs represents ‘current intentions’ and ‘best estimates’ regarding planned network events. Also, clause 3.7A(p)(2) and clause 3.7A(p)(3) state that this information does not bind a TNSP to an advised outage program and



that this information may be subject to change due to unforeseen circumstances outside the control of a TNSP.

#### **6.5.4 Requirements for an Interim Congestion Information Resource.**

There are also savings and transitional arrangements where NEMMCO is required to publish an interim CIR to implement the CIR objective. However this interim CIR need not be developed in accordance with the Rules consultation procedures (Clause 11.X.2(a)). The interim CIR is to be published by NEMMCO within 6 months of this proposed Rule commencing operation (Clause 11.X.2(d)).

### **6.6 Proposed Amendments**

The Commission is proposing largely to adopt the MCE's Congestion Information Resource Rule, as described above, subject to a number of minor amendments of a drafting and consequential nature to improve the clarity and application of the proposed Rule. The amendments to the Congestion Information Resource Rule are marked up in an extract contained in Appendix C.

### **6.7 Rule making Test**

The Commission is satisfied that the Draft Congestion Information Resource Rule will or is likely to contribute to the achievement of the NEO because it would lead to more efficient operation of electricity services in the long term interests of consumers with respect to price, quality, reliability and security of supply of electricity. The Draft Congestion Information Resource Rule would promote productive efficiency by ensuring that market participants have access to a CIR that provides timely and cost-effective information on planned network events and patterns and incidence of mis-pricing in the NEM.

The Draft Congestion Information Resource Rule:

- ensures the provision of higher quality information in the form of a CIR that will facilitate more informed decision-making on the part of market participants, including investors and, as such, should increase the efficiency of the NEM.
- provides information with respect to planned network events and on the patterns and incidence of mis-pricing, an understanding of which would assist in the identification of actual and potential sources of congestion. This would provide participants with a better understanding of how potential changes in system conditions are likely to affect network constraints and therefore influence dispatch. Improvements in information should result in more informed and efficient decision making for participants, and thus should enhance the efficiency of the NEM.

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## 7 Network Augmentations

The MCE has requested that the proposed Network Augmentations Rule be progressed based on the recommendations advanced by the Commission as part of the CMR. Prior to considering the proposed Network Augmentations Rule in detail, the key recommendations and reasoning supporting the proposed Network Augmentations Rule are summarised below.

In respect of the proposed Network Augmentations Rule, the Commission is of the view that the CMR recommendations contained in the CMR Final Report should not be adopted in view of the range of related network matters which are being considered as part of the Commission's Climate Change Review.

### 7.1 Description of proposed Network Augmentations Rule

The proposed Network Augmentations Rule seeks to clarify the Rules in the following respects:

- where another party connects to a participant funded network augmentation, that party should contribute to the costs of the augmentation and the party who funded the network augmentation should benefit from reduced charges (or recouped costs); and
- where a generator and a TNSP are negotiating transmission access, including use of system charges, these negotiations should be conducted in a manner that is consistent with the principles in the Rules relating to access to negotiated transmission services.

### 7.2 Reasoning for the Network Augmentations Rule

The CMR Final Report identified for clarification the circumstances in which generators choose to fund a network augmentation in the context of negotiating its connection service with a TNSP. The recommendation was to make explicit the requirement that recouped costs (or reduced charges) should be negotiated between a generator and a TNSP and should apply to circumstances where another party connects to the network and benefits from an existing participant-funded network augmentation. This was considered necessary as connection services are generally classified as negotiated transmission services in the Rules and, as such, are not subject to the same form of regulation as prescribed transmission services.

The provision of negotiated transmission services are an important element of the overall congestion management regime because they provide locational signals to generators considering investment options. The direct cost of connection provides one form of signal. The scope for generator-funded network augmentations provides another. This has relevance where the quality of access required by the generator is greater than can be supported by network investment consistent with satisfying the Regulatory Test under Chapter 5 of the Rules.

In the CMR Final Report the Commission identified a potential barrier to efficient responses to these signals, being the risk that a generator who funds a network augmentation does not realise the full benefits of the augmentation because another generator connects subsequently. This was referred to as the “first mover” problem. The Rules provide for this contingency in two ways. First, they allow a generator to negotiate an explicit level of transmission network user access with a TNSP; for example, the generator could stipulate compensation payments if the level of service was reduced. Secondly, they allow costs to be recouped (or reduced charges) in the event that another user’s connection impacts on the service being provided to the “first mover”.

While the current provisions in the Rules already allow for such responses to subsequent connections to a “first mover”-funded augmentation, analysis as part of the CMR indicated that these provisions could be stated more clearly and directly, by making explicit the requirement that recouped costs (or reduced charges) should be negotiated between a generator and a TNSP, and not unilaterally imposed by a TNSP. This clarification would provide greater certainty for generators, thereby improving the overall effectiveness of the locational signal.

### **7.3 Description of the proposed Network Augmentations Rule**

This proposed Network Augmentations Rule would make two amendments to the Rules to ensure that the outcome outlined above could be achieved. The proposed Network Augmentations Rule is consistent with the recommendations and rationale contained in the CMR Final Report. It would involve the following amendments to the Rules:

- insertion of new Clause 5.4A(f)(5) – to ensure that negotiations between generators and TNSPs are conducted in a manner consistent with the principles relating to access to negotiated transmission services under Clause 6A.9.1; and
- insertion of a Note in Clause 6A.9.1(6) – to clarify that where another party connects to a participant funded network augmentation, that party should contribute to the costs of the augmentation and the party who funded the network augmentation should benefit from reduced charges (or recouped costs).

## **8 Outcomes of the CMR Final Report regarding the Network Augmentations Rule and their continued relevance**

Since the publication of the CMR Final Report, the Commission has commenced the Climate Change Review. The Climate Change Review is reviewing energy market frameworks in light of the climate change policies across a broad range of issues, including connection charging and locational signals for investment. The issues that the proposed Network Augmentations Rule seeks to address will be considered by the Climate Change Review, together with a number of related network connection and augmentation issues. It would therefore be inefficient to implement this relatively narrow Rule change now when the outcome of the Climate Change Review may be to recommend more comprehensive changes to the Rules in relation to this and related network issues.

The Commission is therefore of the view that it would be preferable not to proceed with the proposed Network Augmentations Rule at this time.

## **8.1 Rule making Test**

The Commission considers that, as the issues raised by the proposed Network Augmentation Rule are being considered more broadly through the Climate Change Review, implementation of the proposed Rule at this time would not be consistent with the NEO. At this stage, it would be inefficient and inconsistent with good regulatory practice to make a rule achieving a limited change, knowing that the same rule might be amended further as part of the recommendations coming out of the Climate Change Review.

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## Appendix A: Draft Constraint Formulations Rule

The extract below highlights the differences between the proposed Constraint Formulations Rule and the Draft Rule.

### Schedule 1 Amendment of National Electricity Rules

(Clause 3)

#### [1] Clause 3.7.2 Medium term PASA

Omit clause 3.7.2(c)(3) and substitute:

- (3) forecast *network constraints* known to NEMMCO at the time: ~~;~~ ;

#### [2] Clause 3.7.3 Short term PASA

Omit clause 3.7.3(d)(3) and substitute:

- (3) anticipated *network constraints* known to NEMMCO at the time: ~~;~~ and

#### [3] Clause 3.8.1 Central Dispatch

Omit clause 3.8.1(b) and substitute:

- (b) The *central dispatch* process should aim to maximise the value of *spot market* trading ~~i.e. that is~~ to maximise the value of *dispatched load* based on *dispatch bids* less the combined cost of *dispatched generation* based on *generation dispatch offers*, *dispatched network services* based on *network dispatch offers*, and *dispatched market ancillary services* based on *market ancillary service offers* subject to:
- (1) *dispatch offers*, *dispatch bids* and *market ancillary service offers*;
- (2) *constraints*:  
(i) due to availability and commitment; or  
(ii) in the case of semi-scheduled generating units, identified by the unconstrained intermittent generation forecast;
- (3) *non-scheduled load* requirements in each *region*;
- (4) *power system security* requirements determined as described in Chapter 4 and the *power system security and reliability standards*;
- (5) *network constraints*;

- (6) *intra-regional losses and inter-regional losses;*
- (7) *constraints consistent with registered bid and offer data;*
- (8) *current levels of dispatched generation, load and market network services;*
- (9) *constraints imposed by ancillary services requirements;*
- (10) *arrangements designed to ensure pro-rata loading of tied registered bid and offer data;*
- (11) ensuring that as far as reasonably practical, in relation to a ~~direction or dispatch of plant under a reserve contract~~NEMMCO intervention event:
  - (A) the number of Affected Participants ~~is minimised~~; and
  - (B) the effect on interconnector flows ~~is minimized~~  
is minimised; and
- (12) the management of negative ~~settlement~~settlements residues, in accordance with clause 3.8.10 and any guidelines issued by NEMMCO under clause 3.8.10(c).

#### **[4] Clause 3.8.10 Network Constraints**

Omit clauses 3.8.10(b) and 3.8.10(c) and substitute:

- (b) Subject to ~~clause 3.8.10~~paragraph (e), NEMMCO must determine and represent *network constraints* in *dispatch* which may result from limitations on ~~both~~ *intra-regional* ~~and~~or *inter-regional* power flows; and, in doing so, must use a *fully co-optimised network constraint formulation*.
- (c) NEMMCO must, in accordance with the *Rules consultation procedures*, develop, publish by [DATE A], and, where necessary, amend *network constraint* formulation guidelines, to address, amongst other things, the following matters:
  - (1) the circumstances in which NEMMCO will use *alternative network constraint formulations* in *dispatch*;
  - (2) the process by which NEMMCO will identify or be advised of a requirement to create or modify a *network constraint* equation, including in respect of:
    - (i) the methodology to be used by NEMMCO in determining *network constraint* equation terms and co-efficients; and



- (ii) the means by which NEMMCO will obtain information from, and disseminate information to, ~~scheduled generators and market participants~~ Scheduled Generators, Semi-Scheduled Generators and Market Participants;
- (3) the methodology to be used by NEMMCO in selecting the form of a *network constraint* equation, including in respect of the location of terms on each side of the equation;
- (4) the process to be used by NEMMCO for applying, invoking and revoking *network constraint* equations in respect of different types of *network constraints*, including in respect of:
  - (i) the circumstances in which NEMMCO will use *alternative network constraint formulations* and *fully co-optimised network constraint formulations*; and
  - (ii) the dissemination of information to ~~scheduled generators and market participants~~ Scheduled Generators, Semi-Scheduled Generators and Market Participants in respect of this process; and
- (5) NEMMCO's policy in respect of the management of negative *settlements residues*, by intervening in the central *dispatch* process under clause 3.8.1 through the use of *fully co-optimised network constraint formulations*, including in respect of the process to be undertaken by NEMMCO to manage negative *settlements* ~~residue~~ residues.

Note DATE A is intended to be 9 months after this Rule commences operation.

- (d) NEMMCO must at all times comply with the *network constraint* formulation guidelines issued in accordance with ~~clause 3.8.10(e)~~ paragraph (c).
- (e) Where, in NEMMCO's reasonable opinion, a specific *network constraint* is such that use of a *fully co-optimised network constraint formulation* is not appropriate, NEMMCO may apply an *alternative network constraint formulation* for the expected duration of that *network constraint*, if NEMMCO:
  - (1) has previously identified, in guidelines issued in accordance with ~~clause 3.8.10(e)~~ paragraph (c), that it may use an *alternative network constraint formulation* in respect of that type of *network constraint*; and
  - (2) reasonably considers that it can apply an *alternative network constraint formulation* without prejudicing its obligation to operate a *central dispatch* process to *dispatch scheduled generating units*, semi-scheduled generating units, *scheduled*

*loads, scheduled network services and market ancillary services* in order to balance *power system supply* and demand, consistent with using its reasonable endeavours to maintain *power system security* in accordance with Chapter 4 and to maximise the value of *spot market* trading on the basis of *dispatch offers* and *dispatch bids*, in accordance with clause 3.8.1(a) and (b).

- (f) NEMMCO must represent *network constraints* as inputs to the *dispatch* process in a form that can be reviewed after the *trading interval* in which they occurred.
- (g) Within 3 years from the date the National Electricity Amendment (Fully Co-optimised and Alternative Constraint ~~Formulation~~Formulations) Rule 2009 commences operation, the AEMC must commence a review under section 45 of the *National Electricity Law* in respect of the efficiency with which NEMMCO is managing circumstances in which the *settlements residue* arising in respect of a *trading interval* is a negative amount.
- ~~(h) In conducting a review in accordance with clause 3.8.10(g), the AEMC must have regard to the national electricity objective stated at section 7 of the *National Electricity Law*.~~
- ~~(i) The review under clause 3.8.10(g):~~
  - ~~(1) may be conducted in such manner as the AEMC considers appropriate;~~
  - ~~(2) may (but need not) involve public hearings;~~
- ~~(j) During the course of the review conducted under clause 3.8.10(g), the AEMC may:~~
  - ~~(1) consult with any person or body that it considers appropriate;~~
  - ~~(2) establish working groups to assist it in relation to any aspect, or matter or thing that is the subject of the review;~~
  - ~~(3) commission reports by other persons on its behalf on any aspect, or matter or thing that is the subject of the review;~~
  - ~~(4) publish discussion papers or draft reports.~~
- ~~(j) At the completion of the review conducted under clause 3.8.10(g), the AEMC must issue a report and give a copy of the report to the Ministerial Council on Energy.~~

## **[5] Clause 3.9.7 Pricing for constrained-on scheduled generating units**

Omit clause 3.9.7(a) and substitute:

- (a) In the event that a *network constraint* causes a *scheduled generating unit* to be *constrained-on* in any *dispatch interval*, that *scheduled generating unit* must comply with *dispatch instructions* from NEMMCO in accordance with its availability as specified in its *dispatch offer* but may not be taken into account in the determination of the *dispatch price* in that *dispatch interval*.

## [6] Clause 3.13.8 Public Information

Omit clause 3.13.8(a)(5) and substitute:

- (5) *network constraints* by *trading interval*.

## ~~Chapter 8A, Part 8 – Network Constraint Formulation~~

~~Omit Part 8 of chapter 8A and insert “[Deleted]”.~~

## [7] ~~[8]~~ Chapter 10 New definitions

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

### **alternative network constraint formulations**

Any *network constraint* equation formulation used by NEMMCO other than a *fully co-optimised network constraint formulation*.

### **fully co-optimised network constraint formulation**

A *network constraint* equation formulation that allows NEMMCO, through direct physical representation, to control all the variables within the equation that can be determined through the *central dispatch* process, ~~within the equation~~.

## [8] ~~[9]~~ Chapter 10 Deleted definitions

Omit the following definitions:

### **inter-regional network constraint**

A *constraint* on the *transmission* and/or *distribution networks* between *regions* as specified in clause 3.6.4(a).

### **intra-regional network constraint**

A *constraint* on part of the *transmission* and *distribution networks* within a *region* as specified in clause 3.6.4(b).

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## Appendix B: Draft Negative IRSR Amounts Rule

The extract below highlights the differences between the proposed Negative IRSR Amounts Rule and the Draft Rule.

### Clause 3.6.5 Settlements residue due to network losses and constraints

Omit clauses 3.6.5(a)(4), 3.6.5(a)(4A) and 3.6.5(a)(4B) and substitute:

- (4) subject to clauses 11.1.1 and 11.1.2, if the *settlements residue* arising in respect of a *trading interval*, after taking into account any adjustment in accordance with clauses 5.7.7(aa)(3) or (ab), is a negative amount, then, in respect of ~~each~~the *billing period* in which ~~a~~the negative *settlements residue* arises:
  - (i) NEMMCO must recover the amount from the appropriate *Transmission Network Service Provider* ~~(which will not include Market Network Service Providers)~~ within the *region* (the “importing region”) to which electricity is transferred during the relevant trading interval from another *region* (the “exporting region”) through *regulated interconnectors*, at a payment interval, and by a method, ~~to be~~ determined by NEMMCO, and which may include a determination that an appropriate *Transmission Network Service Provider* make payment at a date prior to the settlement date determined in respect of other *Transmission Network Service Providers*; and
  - (ii) the appropriate *Transmission Network Service Provider* ~~(which will not include Market Network Service Providers)~~ must make the payment at the time ~~;~~ and payment interval , and by the method , determined by NEMMCO ;
- (4A) subject to clauses ~~3.6.5(a)(4)~~, 11.1.1 and 11.1.2, ~~where~~if interest costs are incurred by NEMMCO in relation to any unrecovered negative *settlements residue* ~~amounts~~amount referred to in clause 3.6.5(a)(4), then, in respect of ~~each~~the *billing period* in which ~~a~~the negative *settlements residue* arises:
  - (i) NEMMCO must recover the interest costs from the appropriate *Transmission Network Service Provider* ~~(which will not include Market Network Service Providers)~~ within the *region* (the “importing region”) to which electricity is transferred during the relevant trading interval from another *region* (the “exporting region”) through *regulated interconnectors*, at a payment interval, and by a method, ~~to be~~ determined by NEMMCO, and which may include a determination that an appropriate *Transmission Network Service Provider* make payment at a date prior to the settlement date determined in respect of other *Transmission Network Service Providers*; and

- (ii) the appropriate *Transmission Network Service Provider* ~~(which will not include *Market Network Service Providers*)~~ must make the payment at the time, ~~and~~ and payment interval, and by the method, ~~determined by NEMMCO~~;
- (4B) for the purposes of ~~clauses 3.6.5~~ sub-paragraphs (4) and ~~3.6.5~~ (4A), the AER must, in accordance with the *Rules consultation procedures*, make, *publish*, and where necessary, amend, a determination identifying the appropriate *Transmission Network Service Provider* (which ~~will~~ must not include a *Market Network Service ~~Providers~~ Provider*) responsible for payments in respect of ~~a~~ negative *settlements* ~~residue~~ residues in relation to each directional *interconnector*, and must notify NEMMCO of the making or amendment of any such determination~~.~~;

### **Clause 3.6.5 Settlements residue due to network losses and constraints**

Omit clause 3.6.5(c) and substitute “[Deleted]”.

### **Rule 3.15.1 Settlement Management by NEMMCO**

Omit rule 3.15.1(a) and substitute:

- (a) NEMMCO must facilitate the billing and settlement of payments due in respect of *transactions* under this Chapter 3, including:
  - (1) *spot market allocations*;
  - (2) *reallocation transactions*;
  - (3) negative ~~settlement~~ settlements *residues* under clause 3.6.5; and
  - (4) *ancillary services* transactions under clause 3.15.6A.

### **Clause 3.18.4 Proceeds and fees**

Omit clause 3.18.4(a)(1) and substitute:

- (1) subject to clauses 3.6.5(a)(4) and (4A), proceeds from each *auction* in respect of a *directional interconnector*; and

## Schedule 2 Amendment of National Electricity Rules

(Clause 4)

### Chapter 11 Savings and transitional arrangements

Omit the heading “Part A Negative Inter-Regional Settlements Residue (2006 [and 2009](#) amendments)” and rule 11.1 and substitute:

#### Part A Negative Inter-~~Regional~~[regional](#) Settlements Residue (2009 amendments)

Rules consequent on making of the National Electricity Amendment (Negative Inter-~~Regional~~[regional](#) Settlements Residue [Amounts](#)) Rule 2009

##### 11.1.1 Definitions

For the purposes of this rule 11.1:

**Amending Rule** means the National Electricity Amendment (Negative Inter-regional Settlements Residue Amounts) Rule 2009.

**commencement date** means the date of commencement of the Amending Rule.

**old clause 3.6.5(a)(4A)** means clause 3.6.5(a)(4A) of the Rules as in force immediately before the commencement date.

**old clause 3.6.5(a)(4B)** means clause 3.6.5(a)(4B) of the Rules as in force immediately before the commencement date.

##### 11.1.2 Recovery of accrued negative settlements residue

The old clause 3.6.5(a)(4A) continues to apply to any negative *settlements residue* amounts arising before the commencement date, and not recovered as at the commencement date, until all such negative amounts have been recovered.

##### 11.1.3 Recovery of interest costs associated with accrued negative settlements residue

~~(a) — Where interest costs incurred by NEMMCO in relation to any unrecovered negative settlements residue amounts referred to in the old clause 3.6.5(a)(4A) arise before the commencement date and are not recovered before the commencement date, then:~~

- ~~(i) — the whole or any part of the interest costs may be recovered from the proceeds of the first *auction* after the commencement date:—~~
  - ~~(ii) — if the whole or a part of the interest costs are not recoverable under clause 11.1.3(a)(i), the unrecovered interest costs may be recovered from the proceeds of successive *auctions* until the interest costs are recovered.~~
- ~~(b)~~ — The old clause 3.6.5(a)(4B) continues to apply to any interest costs arising before the commencement date, and not recovered as at the commencement date, until all such interest costs have been recovered.



## Appendix C: Draft Congestion Information Resource Rule

The extract below highlights the differences between the proposed Congestions Information Resource Rule and the Draft Rule.

### Schedule 1 Amendment of National Electricity Rules

(Clause 3)

#### Rule 3.7A Market information on planned network outages

Omit rule 3.7A and substitute:

##### 3.7A Congestion information resource

- (a) The objective of the *congestion information resource* is to provide information in a cost effective manner to *Market Participants* to enable them to understand patterns of *network* congestion and make projections of *market* outcomes in the presence of *network* congestion (‘the *congestion information resource objective*’).

##### Development of congestion information resource

- (b) To implement the *congestion information resource objective*, NEMMCO must develop and *publish*, in accordance with this rule 3.7A, an information resource comprising:
  - (1) information on *planned network events*; ~~and~~
  - (2) ~~information on the incidence of congestion in the *National Electricity Market* through the use of~~ historical data on *mis-pricing* at *transmission network* nodes in the ~~*National Electricity Market*~~ *national electricity market*; and
  - (3) any other information that NEMMCO, in its reasonable opinion, considers relevant to implement the *congestion information resource objective*,

which is to be known as the *congestion information resource*.

- (c) The *congestion information resource* must contain at least the same level of detail as is required to be included in the interim congestion information resource *published* under clause 11.X.~~2(b)-2.~~
- (d) NEMMCO must develop, and amend from time to time, the *congestion information resource*:

- (1) consistently with the *congestion information resource objective*;
  - (2) in accordance with the *congestion information resource guidelines*; and
  - (3) to incorporate any new, or amend any existing, aspect of the *congestion information resource* where NEMMCO forms the view that such an amendment will improve the ~~congestion information resource's~~ implementation of the *congestion information resource objective*.
- (e) Subject to paragraph (f), NEMMCO must update and *publish* the information contained in the *congestion information resource* (whether in whole or in part) at intervals to be determined by NEMMCO in accordance with the *congestion information resource guidelines*.
  - (f) The intervals determined by NEMMCO for updating and *publishing* the *congestion information resource* must be included in the *timetable*.
  - (g) Where there has been a material change ~~in~~ to the ~~facts or circumstances described~~ information contained in the *congestion information resource* and NEMMCO considers *Market Participants* require the new information prior to the next periodic update of the *congestion information resource* in accordance with paragraph (e), NEMMCO may provide *Market Participants* with the new information in accordance with the *congestion information resource guidelines*.
  - (h) NEMMCO must *publish* the first *congestion information resource* by [DATE B] and there must be a *congestion information resource* available at all times after that date.

**Note:** DATE B is intended to be 1 year after this Rule commences operation.

- (i) For the purpose of *publishing* the first *congestion information resource* under paragraph (b), NEMMCO may, subject to paragraph (d), *publish* the interim *congestion information resource* referred to in clause 11.X.2, as the first *congestion information resource*, in whole or in part.
- (j) NEMMCO must not *publish confidential information* as part of, or in connection with, the *congestion information resource*.

### **Congestion information resource guidelines**

- (k) NEMMCO must develop and *publish* guidelines ('the *congestion information resource guidelines*') for and with respect to:

- (1) the categories of information to be contained in the *congestion information resource* including the source of that information;
  - (2) the scope and type of the information to be provided by *Transmission Network Service Providers* in accordance with paragraphs (n) and (o);
  - (3) the processes to be implemented by *NEMMCO* to obtain the information from *Transmission Network Service Providers* in accordance with paragraphs (n) and (o);
  - (4) the determination of the intervals for updating and *publishing* the *congestion information resource* under paragraph (e); and
  - (5) the processes to be implemented by *NEMMCO* for providing *Market Participants* with information under paragraph (g).
- (l) *NEMMCO* must develop and *publish* the first *congestion information resource guidelines* in accordance with the *Rules consultation procedures* by [DATE A] and there must be a set of *congestion information resource guidelines* available and up to date at all times after this date.

**Note:** DATE A is intended to be 6 months after this Rule commences operation.

- (m) *NEMMCO* must amend the *congestion information resource guidelines* in accordance with the *Rules consultation procedures*.

### **Information of Transmission Network Service Providers**

- (n) In addition to the obligations imposed on *Transmission Network Service Providers* by rule 3.7, *Transmission Network Service Providers* must provide *NEMMCO* with the information specified in the *congestion information resource guidelines*: as information that is to be provided by them:
  - (1) in a form which clearly identifies *confidential information*; and
  - (2) in accordance with the *congestion information resource guidelines*.
- (o) Where there has been a material change ~~into~~ the information provided by a *Transmission Network Service Provider* under paragraph (n), the *Transmission Network Service Provider* must provide *NEMMCO* with the revised information as soon as practicable.
- (p) Information ~~made available to Market Participants as part of, or in connection with,~~contained in the *congestion information resource*

~~by NEMMCO and~~ which has been provided by, or has been derived from information provided by, a Transmission Network Service Providers Provider under this rule 3.7A:

- (1) represents ~~a~~the *Transmission Network Service Provider's* current intentions and best estimates regarding *planned network events* at the time the information is made available;
- (2) does not bind ~~a~~the *Transmission Network Service Provider* to comply with an advised *outage* program; and
- (3) may be subject to change due to unforeseen circumstances outside the control of the *Transmission Network Service Provider*.

## [2] Clause 3.13.4 Spot market

After clause 3.13.4(~~x~~y), insert:

- (~~y~~z) At intervals to be determined by *NEMMCO* under rule 3.7A(~~e~~f), *NEMMCO* must, in accordance with the *timetable*, *publish* ~~the~~ updates to the *congestion information resource*.

## [3] Chapter 10 New Definitions

In Chapter 10, insert the following new definitions in alphabetical order.

### **congestion information resource**

An information resource comprising :

- (a) information on *planned network events* that are likely to materially affect *network constraints* in relation to a transmission system;
- (b) ~~information on the incidence of congestion in the National Electricity Market through the use of~~ historical data on *mis-pricing* at *transmission network nodes* in the ~~National Electricity Market~~ national electricity market; and
- (c) any other information that *NEMMCO*, in its reasonable opinion, considers relevant to implement the *congestion information resource objective*,

that is developed, *published* and amended from time to time; ~~by~~ *NEMMCO* in accordance with rule 3.7A.

### congestion information resource guidelines

Guidelines developed and *published* by NEMMCO in accordance with rule 3.7A(k) to (m) ~~relating to the publication of the congestion information resource.~~

### congestion information resource objective

The objective of the *congestion information resource* which is set out in rule 3.7A(a).

### mis-pricing

For a particular *network* node within a nominated *region*, the difference between:

- (a) the *regional reference price* for the *region*; and
- (b) an estimate of the marginal value of *supply* at the *network* node, which marginal value is ~~to be~~ determined as the price of meeting an incremental change in *load* at that *network* node.

### network support ~~agreements~~agreement

An agreement between a *Network Service Provider* and a *Market Participant* to ~~provide~~improve network capability by providing a non-network alternative to a *network augmentation* ~~to improve network capability.~~

### planned network event

An event which has been planned by a *Transmission Network Service Provider*, NEMMCO, or a *Market Participant* that ~~will~~is likely to materially affect *network constraints* in relation to ~~the~~a *transmission system*, including but not limited to:

- (a) a *network outage*;
- (b) the *connection* ~~and~~or *disconnection* of *generating units* or *load*; ~~or~~
- (c) the commissioning or decommissioning of a *network asset* ~~and~~or the provision of new or modified *network control ancillary services*; and
- (d) the provision of services under a *network support* ~~agreements~~agreement.

## [4] Chapter 10 Deleted Definitions

Omit the following definition:

**hedge contract**

A contract between two or more parties affording one or each of them protection against certain financial risks.

## Schedule 2 Amendment of National Electricity Rules

(Clause 4)

### Chapter 11 Savings and transitional arrangements

After rule 11.(X-1) insert:

#### Part XX Congestion Information Resource (2009 amendments)

### 11.X Rules consequent on the making of the National Electricity Amendment (Congestion Information Resource) Rule 2009

#### 11.X.1 Definitions

In this rule 11.X:

[Amending Rule](#) means the National Electricity Amendment (Congestion Information Resource) Rule 2009.

[commencement date](#) means the day on which the Amending Rule commences operation.

**interim congestion information resource** means the information resource developed and *published* in accordance with rule 11.X.2.

**network outage schedule** means a schedule developed by NEMMCO based on information received from *Transmission Network Service Providers* in accordance with rule 3.7A that lists the planned *network outages* on ~~the~~each *transmission system* for a period of up to two years in advance and that identifies the likelihood of each planned *network outage* proceeding following an assessment of forecast demand for the period of the planned *network outage*.

#### 11.X.2 Interim congestion information resource

- (a) Pending the development and *publication* of the *congestion information resource* under rule 3.7A, NEMMCO must develop an interim congestion information resource to implement the *congestion information resource objective* in accordance with this rule 11.X. NEMMCO is not required to follow the *Rules consultation procedures* in developing the interim congestion information resource.
- (b) The interim congestion information resource must include:
  - (1) the network outage schedule;

- (2) ~~the incidence of congestion in the National Electricity Market through the use of~~ historical data on *mis-pricing* at transmission network nodes in the ~~National Electricity Market~~[national electricity market](#); and
  - (3) the following information on *network outages* planned for the subsequent thirteen months that, in the reasonable opinion of the relevant *Transmission Network Service Provider*, will have or are likely to have a material effect on transfer capabilities:
    - (i) details of the forecast timing and the ~~facts~~[factors](#) affecting the timing of planned *network outages* and the likelihood that the planned timing will vary; and
    - (ii) details of the reasons for the planned *network outage*, including the nature, and a description, of the works being carried out during the planned *network outage*, if any;
  - (4) the following information on planned *network outages* referred to in subparagraph (3):
    - (i) an assessment of the projected impact on *intra-regional power transfer capabilities*, the accuracy of which must be appropriate to implement the *congestion information resource objective*; and
    - (ii) an assessment of the projected impact on *inter-regional power transfer capabilities*, the accuracy of which must be appropriate to implement the *congestion information resource objective*;
  - (5) any other information with respect to planned *network outages* referred in ~~subparagraphs~~[subparagraph](#) (3) ~~and (4) that implements that NEMMCO considers relevant to implement~~ the *congestion information resource objective*; and
  - (6) any other information that *NEMMCO*, in its reasonable opinion, considers relevant to implement the *congestion information resource objective*.
- (c) Each month, in accordance with the *timetable* for the provision of information to *medium term PASA*, each *Transmission Network Service Provider* must provide to *NEMMCO*:
- (1) the information referred to in [paragraphs \(b\)\(3\) and \(b\)\(4\)](#); and
  - (2) for the purposes of paragraph (b)(5), any other information with respect to the planned *network outages* referred to in ~~paragraphs~~[paragraph](#) (b)(3) ~~and (b)(4) that implements that~~



NEMMCO considers relevant to implement the congestion information resource objective.

- (d) NEMMCO must *publish* the interim congestion information resource by [DATE A].

**Note:** DATE A is intended to be 6 months after this Rule commences operation.

- (e) ~~For the purposes of the congestion information resource guidelines published under rule 3.7A(k), the interim congestion information resource is taken to be the congestion information resource.~~(f)

NEMMCO must determine the frequency of updating (whether in whole or in part) and *publishing* the information contained in the interim congestion information resource ~~which must be included in the timetable.~~

- (~~g~~f) At intervals ~~to be~~ determined by NEMMCO under paragraph (~~f~~e), NEMMCO must, in accordance with the *timetable*, update and *publish* the interim congestion information resource.

- (~~h~~g) *Transmission Network Service Providers* must provide NEMMCO with such information as is requested by NEMMCO for inclusion in the interim congestion information resource in accordance with paragraph (b). This information is to be provided to NEMMCO in a form which clearly identifies *confidential information*.

- (~~i~~h) Where there has been a material change ~~in~~ to the information provided by a *Transmission Network Service Provider* under paragraph (~~h~~g), the *Transmission Network Service Provider* must provide NEMMCO with the revised information as soon as practicable.

- (~~j~~i) Information contained in the interim congestion information resource which has been provided by, or has been derived from information provided by, a Transmission Network Service Provider:

- (1) represents ~~a~~the *Transmission Network Service Provider's* current intentions and best estimates regarding planned network ~~events~~outages at the time the information is made available;
- (2) does not bind ~~a~~the *Transmission Network Service Provider* to comply with an advised *outage* program; and
- (3) may be subject to change due to unforeseen circumstances outside the control of the *Transmission Network Service Provider*.

- (j) NEMMCO must not publish confidential information as part of, or in connection with, the interim congestion information resource.

- (k) NEMMCO must amend the *timetable* in accordance with clause 3.4.3(b) to take into account the Amending Rule and those amendments are to take effect from the commencement date.
- (l) All actions taken by NEMMCO prior to the commencement date in anticipation of the commencement date to amend the *timetable* as required by paragraph (k) are taken to satisfy the equivalent action required under clause 3.4.3(b).