Australian Energy Market Commission

RULE CHANGE

FINAL RULE DETERMINATION

(Arrangements for Managing Risks associated with Transmission Network Congestion) Rule 2009

Rule Proponent(s)

Ministerial Council on Energy

Commissioners

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AEMC 2009, *Arrangements for Managing Risks associated with Transmission Network Congestion*, Final Rule Determination, 13 August 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.

Contents

Abbreviations

ACCC	Australian Competition and Consumer Commission
ACF	Alternative Constraint Formulation
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
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 (from 1 July 2009 it is now part of the Australian Energy Market Operator)
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 proposal from the Ministerial Council on Energy (MCE). The Rule Change Proposal sought to implement four sets of Rule changes that arose out of recommendations that the MCE endorsed from the Commission's Congestion Management Review (CMR); being.

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

In the Draft Rule Determination, the Commission assessed the Rule Change Proposal and was of the view that three of the proposed sets of Rules, subject to some modifications, met the statutory Rule making test. The Commission was of the view that the proposed National Electricity Amendment (Network Augmentations) Rule 2009 should not proceed as a number of issues relevant to this proposed Rule were and are still being considered as part of the Commission's Review of Energy Market Frameworks in light of Climate Change Policies.

The Final Rule Determination and Rules as Made are largely reflective of and consistent with the Draft Rule Determination and Draft Rules. The Commission has made, with some changes, the Constraint Formulations Rule, the Negative IRSR Amounts Rule and the Congestion Information Resource Rule. In line with the Draft Rule Determination, Commission's final decision was not to make the Network Augmentations Rule.

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 on Energy (MCE) (Rule Change Proposal).[1] The Rule Change Proposal sought to implement four sets of 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 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).[2]

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 (CMR Final Report).[3]

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 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.[4] 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.[5]

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[1] 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)

[2] Rule Change Proposal, Part 1, p 1.

[3] AEMC 2008, *Final Report*, Congestion Management Review, June 2008, Sydney (CMR Final Report).

[4] Rule Change Proposal, Part 1, p 3.

[5] Rule Change Proposal Part 1, p 3.

1.3 Description of the proposed Rules

The four Rules proposed by the MCE sought to address issues relating to the management of physical and financial trading risks associated with material transmission network congestion. The MCE's proposed Rules are:

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

Each of the four Rules proposed by the MCE are outlined in section A.1 of Appendix A.

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 decided to fast-track the Rule Change Proposal under section 96A of the NEL and, accordingly, there was no first round consultation. The basis for making this decision is set out in section A.2 of Appendix A.

1.5 Publication of draft Rule determination and draft Rules

On 23 April 2009, the Commission published a draft Rule determination in relation to the Rule Change proposal, including draft Rules (Draft Rule Determination).[6] In its Draft Rule Determination, the Commission decided to make the following draft Rules because it was satisfied that they will or are likely to contribute to the National Electricity Objective (NEO):

- Draft Constraint Formulations Rule;
- Draft Negative IRSR Amounts Rule; and
- Draft Congestion Information Resource Rule.

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

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[6] AEMC 2009, *Arrangements for managing risks associated with transmission network congestion*, Draft Rule Determination, 23 April 2009, Sydney.

1.6 Consultation on the draft Rule determination

Submissions on the Draft Rule determination closed on 5 June 2009. The Commission received three submissions by the closing date. Submissions were received from the following:

- NEMMCO, referred to in this final Rule determination as the Australian Energy Market Operator (AEMO), as NEMMCO's roles and responsibilities transferred to the AEMO on 1 July 2009;[7]
- Grid Australia;[8] and
- AGL, International Power, TRUenergy & LYMMCO (the Group).[9]

The Commission also received a late submission from the Australian Energy Regulator (AER) on 2 July 2009.[10]

No interested person or body requested that the Commission hold a hearing in relation to the Draft Rule Determination.

1.7 Additional Consultation

On 2 July 2009, the Commission published a notice under section 107A of the NEL to extend the publication date of the final Rule determination by four weeks to 13 August 2009 to allow for additional consultation on two specific issues raised by AEMO that proposed to:

- delete clause 3.13.4(o) of the National Electricity Rules; and
- extend the application of proposed clause 3.6.5 (a)(4B) of the Draft Negative IRSR Amounts Rule.

By close of consultation on 16 July 2009, the Commission received one response from Grid Australia.[11] On 21 July 2009, the Commission also received a late submission from AEMO.[12]

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[7] NEMMCO, NEMMCO Submission on Rule Change Draft Determination – Arrangements for Managing Risks associated with Transmission Network Congestion, 5 June 2009 (AEMO Submission).

[8] Grid Australia, AEMC Draft Rule Determination: Arrangements for Managing Risks Associated with Transmission Network Congestion, 5 June 2009 (Grid Australia Submission).

[9] AGL, International Power, TRUenergy and LYMMCO 2009, Implementation of Rules Change – Arrangements for managing risks associated with transmission network congestion, 2 April 2009 (Group Submission).

[10] AER 2009, Negative Inter-regional Settlements Residue Amounts, 2 July 2009 (AER Submission).

[11] Grid Australia, Grid Australia response toAEMC Draft Rule Determination: Arrangements for Managing Risks Associated with Transmission Network Congestion, 16 July 2009 (Grid Australia Supplementary Submission)

1.8 Structure of the final Rule determination

Chapter 2 sets out the Commission's final 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.

Appendix A outlines the proposed Rules and the fast-track process. Appendix B summarises the reasoning for the MCE proposed Rules from the CMR Final Report.

12 AEMO, Arrangements for Managing Risks associated with Transmission Network Congestion, 21 July 2009 (AEMO Supplementary Submission)

2 Final Rule Determination

2.1 Commission's final Rule determination

Under sections 102 and 103 of the NEL, the Commission has determined to make, with changes, the following three Rules proposed by the MCE:

- *National Electricity Amendment (Congestion Information Resource Rule) No 16 2009* (Final Congestion Information Resource Rule);
- *National Electricity Amendment (Negative Inter-regional Settlements Residue Amounts Rule) 2009 No 17* (Final Negative IRSR Amounts Rule); and
- *National Electricity Amendment (Fully Co-optimised and Alternative Constraint Formulations) Rule 2009 No 18* (Final Constraint Formulations Rule). [13]

Collectively, these Rules are referred to as the Rules as Made.

The Rules as Made, which are different from the Rules proposed by the MCE, are published with this final Rule determination.

The Commission has not made the proposed Network Augmentations Rule.

2.2 Commission's considerations

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

- the Commission's powers under the NEL to make the Rules;
- the CMR Final Report;
- the Rule Change Proposal and the proposed Rules;
- the Commission's analysis on the ways in which the proposed Rules will, or are likely to contribute to the NEO so that the statutory Rule making test is satisfied;
- relevant MCE Statements of Policy Principles;[14]
- Statement of NEM Electricity Transmission;[15] and

[13] Section 103(3) of the NEL provides that the Rule that is made in accordance with section 103(1) of the NEL need not be the same as the draft of the proposed Rule to which a notice under section 95 relates or the draft of a Rule contained in a final Rule determination.

[14] There are no relevant MCE Statements of Policy Principles in respect of this Rule Change Proposal.

- submissions and comments received during consultation on the Draft Rule Determination and draft Rules.

The Commission is satisfied that the Rules as Made will, or are likely to, contribute to the achievement of the NEO and therefore, satisfy the Rule making test. The reasons as to why the Commission is satisfied that each of the Rules as Made will or is likely to contribute to the achievement of the NEO are outlined below.

Further, the Rules as Made:

- 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 proposed Network Augmentations Rule satisfies the Rule making test. Its reasoning in this regard is also set out below.

2.2.1 Constraint Formulations Rule

The Commission is satisfied that the Final Constraint Formulations Rule will or is likely to contribute to the achievement of the NEO. This is 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 AEMO's treatment of negative settlement residues.

Subject to amendments made in response to issues raised in consultation regarding the Draft Constraint Formulations Rule, the Final Constraint Formulations Rule is consistent with the MCE Statement of NEM Electricity Transmission.

2.2.2 Negative IRSR Amounts Rule

The Commission is satisfied that the Final Negative IRSR Amounts Rule will or is likely to contribute to the achievement of the NEO. This is 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

15 MCE, Statement on NEM Transmission, May 2005.

- improving the 'firmness' of the IRSR unit as a hedging instrument while promoting dynamic efficency by increasing competition in the inter-regional contract market.

2.2.3 Congestion Information Resource Rule

The Commission is satisfied that the Final Congestion Information Resource Rule will or is likely to contribute to the achievement of the NEO. This is 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 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), consideration of the proposed Rule at this time would not be appropriate. 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 subject to further consideration 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 MCE Rules included in the Rule Change Proposal, the draft Rules included in the Draft Rule Determination differed from them in some respects. The modifications were made to improve the clarity and application of the provisions. In some cases they removed redundant or unnecessary drafting. These changes were of a consequential and minor drafting nature and did not affect the rationale and intent of the proposed Rules.

2.4 Differences between the draft Rules and Rules as Made

The Rules as Made are reflective of the draft Rules. Following consideration of issues raised by stakeholders through consultation the Commission has made some changes that improve the actual operation of the Rules as Made and enhance their clarity and certainty. Some changes have been made following the Commission's own analysis of the draft Rules.

2.5 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 and the proposed Constraint Formulations Rule relate to matters addressed by item 11 of Schedule 1 of the NEL being 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 operated and administered by the market operator, including maximum and minimum prices; and the methodology and formulae to be applied in setting those 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 final 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;
- consider the key recommendations and supporting reasoning for the proposed Rules (from the CMR Final Report);
- analyse the Rules proposed by the MCE for their consistency with the key recommendations;
- analyse the Rules proposed by the MCE 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;
- consider and assess the proposed Rules and their rationale, together with any amendments, against the NEO;
- consider and assess the issues raised by stakeholders in response to the Draft Rule Determination and the draft Rules; and
- assess the Rules as Made 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.[16] 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:

[16] See section 88(1) of the NEL.

- price, quality, safety, reliability and security of supply of electricity; and
- the reliability, safety and security of the national electricity system.[17]

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 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.[18]

The MCE stated that the proposed Rule changes were a step towards establishing an effective congestion management regime that would promote efficient outcomes by assisting energy market participants to manage risks and make informed decisions and, as such, the proposed Rules contributed to the achievement of the NEO.[19]

[17] See section 7 of the NEL.

[18] Rule Change Proposal, Part 2, p 5.

[19] Rule Change Proposal, Part 2, p 5.

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

The MCE 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 MCE Constraint Formulations Rule in detail, the key recommendations and reasoning supporting that proposed Rule are summarised below in sections 4.1 and 4.2. Section 4.3 reproduces from the Draft Rule Determination the assessment of the issues arising out of the Rule Change Proposal. Sections 4.4 and 4.5 assess the issues arising out of submissions received in response to the Draft Rule Determination , including the Draft Constraint Formulations Rule.

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 as well as the Draft Constraint Formulations Rule.

4.1 Description of proposed Constraint Formulations Rule

The proposed MCE Constraint Formulations Rule would formalise AEMO's (formerly NEMMCO) 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 AEMO 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 summarised the recommendations in relation to the proposed Constraint Formulations Rule as follows:

Formalising constraint formulation

- AEMO should be obliged to formally use a 'fully co-optimised constraint formulation' in representing network constraints in dispatch whenever practicable.

- AEMO 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

- AEMO should develop, publish and comply with Guidelines that articulate the methodology and processes AEMO 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. AEMO should develop these Guidelines in accordance with the Rules consultation procedures.

Managing Negative Inter-regional Settlements Residues

- The Guidelines should include AEMO'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 AEMO manages negative settlements residue through intervening in dispatch.

The reasoning for the proposed MCE Constraint Formulations Rule is set out in Appendix B.

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

The Commission notes that the AEMO is currently consulting on a proposal to increase the intervention threshold from the current $6,000 to $100,000. This consultation does not impact on validity or the relevance of the Constraints Formulation Rule.

4.3 Assessment of proposed Constraint Formulations Rule

In the Draft Rule Determination the Commission reviewed the proposed MCE Constraint Formulations Rule for its consistency with:

- the recommendations from the CMR Final Report (as set out above); and

- the Rules more generally, particularly given the commencement of Rules since the completion of the CMR Final Report and other developments.

In the Draft Rule Determination, the Commission also assessed the proposed MCE Constraint Formulations Rule, together with amendments identified by the Commission, against the Rule making test.

4.3.1 Consistency with CMR Final Report

In the Draft Rule Determination, the Commission concluded that the proposed MCE Constraint Formulations Rule was consistent with the recommendations and rationale contained in the CMR Final Report. It was reflective of the benefits referred to in the CMR Final 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 AEMO's ability to manage power system security and supply reliability and to utilise the network more fully during the dispatch process.

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

- replacement of parts 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 some existing definitions in the glossary.

4.3.2 Proposed Amendments

In the Draft Rule Determination, the Commission largely adopted the MCE's proposed Constraint Formulations Rule, 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 removed redundant provisions.

The MCE Statement on NEM Electricity Transmission expressed the view that AEMO should adopt a fully co-optimised direct physical representation where it can control all the variables affecting dispatch. The Rule Change Proposal was consistent with this Statement, as it formalises the requirement for AEMO to use the fully co-optimised network constraint formulation.

4.3.3 Rule making Test

In the Draft Rule Determination, the Commission was 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 AEMO's treatment of negative settlement residues.

The Draft Constraint Formulations Rule:

- introduced clarity, transparency and predictability in the formulation of constraint equations within the dispatch process. It clarified 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 introduced transparency and predictability by requiring AEMO to develop, publish and apply Network Constraint Formulation Guidelines and, in so doing, should aid in more informed decision making among market participants;
- ensured that the formulation of constraint equations, the circumstances under which the formulations will be used and the guidelines that AEMO must comply with are transparent and clear to all market participants, which is consistent with good regulatory practice; and
- would allow AEMO 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's effectiveness after three years of its operation to assess its further need, which is also consistent with good regulatory practice.

4.4 Issues arising out of consultation on draft Rule determination and draft Rule

The following issues were raised by stakeholders during consultation on the Draft Rule Determination and the Draft Constraint Formulations Rule.

4.4.1 Small variables in the definition of a 'fully co-optimised network constraint formulation'

The AEMO stated that it was is concerned that the 'fully co-optimised network constraint formulation' definition is defined in a way that creates an expectation that all controllable variables should always be placed on the left hand side of all constraint equations. However, in practice, there are limitations on the degree to which this can be fully implemented. If a strict interpretation of the current definition was implemented so that variables with extremely small coefficients were required to be controlled, then some of the resulting large plant movements could have a net detriment to security of the main system, to an extent that negates the modest

benefits from the improvement achieved for the critical element.[20] The AEMO suggested that the definition be modified to recognise the practical limitations on the minimum size of coefficients for variables that should be controlled in the interests of enhancing power system security.[21] In support, AEMO referred to a network and FCAS constraint formulation document developed in 2005 that sets out its approach to implementation of the MCE's view that network constraints should be fully co-optimised which recognises a number of practical limitations on the implementation of the policy.[22]

The Group submission raised similar concerns. The Group referred to the history of the implementation of co-optimised constraint equations, including the development of a materiality threshold and that variables which fell short of this threshold were located on the right-hand side of the constraint equation and hence not controlled by it. The Group requested that the definition be amended to recognise the different treatment based on materiality.[23]

The Commission considers that a modification of the definition, to reflect the practical limitations in accordance with current practice is necessary to ensure the security of the power system. Accordingly, the Commission has amended the definition of 'fully co-optimised network constraint formulation in the Final Constraint Formulation Rule.

4.4.2 Deletion of Clause 3.13.4(o)

In its submission to the Draft Rule Determination, the AEMO requested that clause 3.13.4(o) be deleted because:

- it retains, contrary to the intent of this Rule change, the distinction between inter-regional and intra-regional constraints;
- it only applies to a limited number of generators undergoing intra-regional constraints ; and
- the information provided for in this Clause is already provided by generic mis-pricing reports such that this clause is unnecessary.[24]

The Commission did not receive any comments or objections regarding the AEMO's proposal as part of its additional consultation on this matter. After considering AEMO's proposal, the Commission has accepted this change and, through the Final Constraint Formulations Rule, has amended the Rules by deleting clause 3.13.4(o) on the basis that it is effectively a redundant clause that applies to a limited number of generators. Also, it is contrary to the intent of the Rule Change Proposal as it retains the distinction between inter-regional and intra-regional constraints.

[20] AEMO Submission, p 2.
[21] AEMO Submission, p 2.
[22] AEMO Submission, p 2.
[23] Group Submission, p 2.
[24] AEMO Submission, p 3.

4.5 Commission's assessment

The Commission has analysed and assessed the issues arising out of submissions made in response to the Draft Rule Determination and the Draft Constraint Formulations Rule. The Final Constraint Formulations Rule is reflective of the Draft Constraint Formulations Rule, subject to the amendments discussed in section 4.4.

The Commission is satisfied that the Final Constraint Formulations Rule will or is likely to contribute to the achievement of the NEO. This is 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 AEMO's treatment of negative settlement residues.

The Final Constraint Formulations Rule:

- introduces clarity, transparency and predictability in the formulation of constraint equations within the dispatch process. The Final Constraint Formulations 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 Final Constraint Formulations Rule introduces transparency and predictability by requiring AEMO to develop, publish and apply Network Constraint Formulation Guidelines and, in so doing, should aid in more informed decision making among market participants;

- ensures that the definition of 'fully co-optimised network constraint formulation' may be practicably applied by clarifying an exception for variables with small coefficients, which would not need to be controlled. This is consistent with good regulatory practice while maintaining the security of the power system;

- ensures that the formulation of constraint equations, the circumstances under which the formulations will be used and the guidelines that AEMO must comply with are transparent and clear to all market participants, which is consistent with good regulatory practice; and

- would allow AEMO 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's efficiency after three years of its operation to assess its further need, which is also consistent with good regulatory practice.

The Final Constraint Formulations Rule is also consistent with the MCE Statement of NEM Electricity Transmission.

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

The MCE 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 MCE Negative IRSR Amounts Rule in detail, the key recommendations and reasoning supporting that proposed Rule are summarised below in sections 5.1 and 5.2. Section 5.3 reproduces from the Draft Rule Determination the assessment of the issues arising out of the Rule Change Proposal. Sections 5.4 and 5.5 assess the issues arising out of submissions received in response to the Draft Rule Determination and the Draft Negative IRSR Amounts Rule.

The recommendations contained in the CMR Final Report are current, relevant and present a sound basis from which to assess the proposed MCE Negative IRSR Amounts Rule as well as the Draft Negative IRSR Amounts Rule.

5.1 Description of proposed Negative IRSR Amounts Rule

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

The CMR Final Report stated that, rather than the negative inter regional settlement residues 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.[25]

The reasoning for the proposed MCE Negative IRSR Amounts Rule is set out in Appendix B.

5.2 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 4.2 above, the CMR recommendations and rationale present a sound and robust basis from which to consider the proposed MCE Negative IRSR Amounts Rule which is the subject of this Rule Change Proposal.

Section 4.2 also referred to other possible relevant developments. These developments do not appear to require any amendments to the proposed MCE 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.

[25] CMR Final Report, p 26.

5.3 Assessment of proposed Negative IRSR Amounts Rule

In its Draft Rule Determination the Commission reviewed the proposed MCE Negative IRSR Amounts Rule for its consistency with:

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

In the Draft Rule Determination, the Commission also assessed the proposed MCE Negative IRSR Amounts Rule, together with amendments identified by the Commission, against the Rule making test.

5.3.1 Consistency with the CMR Final Report

In the Draft Rule Determination, the Commission concluded that the proposed MCE Negative IRSR Amounts Rule was consistent with the recommendations and rationale contained in the CMR Final Report. It was reflective of the benefits referred to in the CMR Report, especially reducing uncertainty for holders of IRSR units.

The proposed MCE 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.

5.3.2 Proposed amendments

In its Draft Rule Determination, the Commission largely adopted the proposed MCE Negative IRSR Amounts Rule subject to a number of minor amendments of a drafting nature to improve the clarity and application of the proposed Rule.

5.3.3 Rule making Test

In the Draft Rule Determination the Commission was 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 efficency by increasing competition in the inter-regional contract market.

5.4 Issues arising out of consultation on draft Rule determination and draft Rule

The following issues were raised by stakeholders during consultation on the Draft Rule Determination and the Draft Negative IRSR Amounts Rule.

5.4.1 Cash-flow risks for funding negative settlement residues

Grid Australia stated that it was concerned that TNSPs will be exposed to additional cash flow risks as a result of the new arrangements for recovery of negative inter-regional settlements residue amounts. Currently, proceeds from SRAs are paid to the relevant TNSP on a quarterly basis, while payments for intra-regional settlements residues (which may be either positive or negative) are settled with the relevant TNSP on a weekly basis.

At the time of setting annual transmission prices, TNSPs must therefore make forward estimates of these amounts aiming to ensure the correct amount of total revenue recovery. Any over or under recovery is then carried forward to electricity consumers through network charges in the following financial year.
Grid Australia contended that:

- this unquantified impact of this proposed change would appear unsatisfactory to customers, TNSPs, and impacted jurisdictions. To date, no estimates or modelling of potential negative residues have been provided. The present level of risk is therefore unknown;

- the requirement for this analysis is compounded by AEMO's proposed change in the intervention threshold from $6,000 to $100,000 per event. Any uncertainty over these risks will lead to volatility in transmission prices given the annual forecasting process noted above. It is therefore suggested that the potential level of weekly inter-regional negative residues should be quantified to ensure the impacts of this Rule change are more fully understood[26].

Grid Australia stated that cash-flow risk could occur when a significant negative inter-regional settlement residue outcome is greater than the TNSP's forward estimate for any given period. In these circumstances opportunities should be sought for the recovery to be spread over more than one settlement cycle, or for the negative amounts to be netted against any positive amounts through the existing payment streams identified above, as suggested previously.

[26] Grid Australia Submission,p 2.

According to Grid Australia, such arrangements would assist in managing short term cash flows and better allow AEMO and TNSPs to manage risks associated with the new arrangements. Grid Australia noted for example that TNSPs have not to date been subject to prudential management controls under the settlements process, such as the provision of bank or other guarantees. Any additional financial requirements of this nature will clearly involve additional cost and risk for the TNSP to be funded from customers, and should be minimised to the extent possible.[27]

Grid Australia also requested that, given the cash-flow risk, that the time, interval and method of any payments made under proposed clause 3.6.5(a)(4)(ii) and clause 3.6.5(a)(4A)(ii) be determined by AEMO with the agreement of, or in consultation with the affected TNSP. Further, Grid Australia suggested that the AEMC give consideration to potential transitional issues to accommodate the proposed changes and their commercial impacts particularly those on TNSPs' cash flows.[28]

With respect to Grid Australia's comments regarding the lack of quantitative modelling on the impact of negative settlement residues, the Commission notes that historical information on positive settlement residues, negative settlement residues and auction proceeds per directional interconnector per quarter is published by AEMO and is publicly available. The published information is for the current intervention threshold of $6,000 per event. The Commission's analysis of available data at the time of the CMR showed that in all cases the negative settlement inter-regional residues were less that the auction proceeds (which is distributed to the TNSPs); and in the majority of the instances was only a small percentage of the auction proceeds. It is acknowledged that whilst historical information provides a historical basis for assessment, it may not be indicative of future levels of negative settlement residues.

With regards to the possible increase in the intervention threshold, the Commission notes that the AEMO is currently undertaking consultations on increasing the trigger level for the management of negative settlement residues.[29] The Commission expects that the impact of changing the trigger level for intervention upon future levels of negative settlement residues would be considered as part of that consultation process.

With respect to the cash-flow risk referred to by Grid Australia, the Commission makes the following observations:

- currently the Rules provide that the TNSP in the importing region, who is billed for the negative inter-regional settlement residues, would be able to recover all costs, including interest, associated with funding negative settlements residues;

- clause 6A.23.3 of the Rules makes a provision for adjusting the TNSP's revenue to reflect payments for negative settlement residues; and

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[27] Grid Submission, p 2.

[28] Grid Australia Submission, p 3.

[29] See http://www.aemo.com.au/electricityops/578-0002.html

- as noted by Grid Australia any over or under recovery would be carried forward through network charges in the following financial year.

The Commission notes Grid Australia's concerns that there is potential for short-term cash-flow issues for the TNSPs. These cash-flow issues could be avoided if the provision made by the TNSPs for negative inter-regional settlement residues in their revenue is sufficient on both annual and weekly basis. However, negative inter-regional settlement residues arise as a result of network constraints and by its nature are unpredictable. The level of certainty desired by Grid Australia is therefore unlikely to be achieved.

The short term cash-flow issues raised by Grid Australia could be mitigated through the provision of historical information to the TNSPs by the AEMO. Whilst not eliminating this risk for TNSPs, it may assist in improving a TNSP's ability to make provision for negative inter-regional settlement residues. The AEMO already publishes historical information on positive settlement residues, negative settlement residues and auction proceeds per directional interconnector per quarter. This information is however, published in a distributed form and it would be appropriate to draw it together in one place.

The AEMO, in its submission[30] agreed that it would be appropriate to draw information on positive settlement residues, negative settlement residues and auction proceeds per directional interconnector per quarter in one place. The AEMO supported a Rule that would give AEMO the power and obligation to publish this data to avoid any concerns about confidentiality.

The Commission expects that the AEMO will improve the provision of information in relation to settlements residues. Since the information is already published and publicly available and in the absence of consultation on specific information requirements by the TNSPs, the Commission has decided to make specific provision for this in the Final Negative IRSR Amounts Rule.

Grid Australia suggested two specific measures that may mitigate the cash-flow risks discussed above, which are that :

- the recovery should be spread over more than one settlement cycle; or
- negative amounts should be netted against any positive amounts through the existing payment streams.

The AEMO needs to have collected the amounts applicable to the settlement period to be able to effect settlement in the NEM. In order to allow investigation of options with respect to cost recovery, the Final Negative IRSR Amounts Rule requires AEMO to consult with the relevant TNSPs on the method of payment.

Grid Australia has suggestion to net the negative and positive settlements residue amounts to mitigate the cash flow risk to the TNSPs. However, the rationale for

[30] AEMO Supplementary Submission, p 2.

changing the current practice of netting the positive and negative settlements residues is to improve the IRSR as a risk management instrument. Grid Australia's suggestion is contrary to this objective and therefore the Commission has decided not to adopt it.

In recognition of the cash-flow issues that may arise from the commencement of the Rule the Commission has decided that the commencement date for the Final Negative IRSR Amounts Rule will be 1 July 2010.

The Commission is aware that TNSPs make provisions under clause 6A.23.3 for settlement residues on a financial year basis. This occurs in the months leading up to 1 July. For the 2009/10 financial year, the TNSPs have already determined the transmission tariffs and allowances for negative inter-regional settlements residues would not have been made. Therefore, setting the commencement date to 1 July 2010 will ensure that the TNSPs are able to make an appropriate provision.

To ensure that the TNSPs are able to make this provision in their pricing prior to commencement date of this Rule, the Commission has included transitional provisions to this effect.

A 1 July 2010 commencement date also, as per AEMO's request, ensures that the recovery of negative settlement residues starts on a calendar quarter to align with settlement residue distribution agreements and related software.[31] Further, this commencement date is consistent with the sunset provisions of the existing Rule applicable to negative settlement residue amounts.

5.4.2 Whether the AER should make a determination to identify the 'appropriate TNSP'

Proposed clause 3.6.5(a)(4B) of the draft Rule states that the AER is to make a determination as to which TNSP is responsible for funding negative settlements residues. In its submission, the AER suggested that for the purposes of administrative simplicity, the appropriate TNSP should be simply defined in the Rules rather than having the AER to make a determination because in most regions there is only one TNSP and in those regions where there is more than one TNSP (specifically, NSW and Victoria) there is a coordinating NSP under Rule 6A.29 of the Rules. [32] By stating the definition in the Rules, the AER claimed that this would enhance the transparency of the Rules and reduce the administrative burden on NEM participants and the AER. Grid Australia made a submission supporting the AER's suggestion.[33]

[31] AEMO Supplementary Submission, p 4.

[32] AER Submission, p 2.

[33] Grid Australia Supplementary Submission, p 1.

In response, the AEMO made a submission stating that it agreed that the single TNSP or coordinating TNSP be responsible for regional settlement residue transactions with AEMO.[34]

The AEMO however, noted that it is important that the Rules set down the process for the identification in each region of a specific TNSP organisation that can be held accountable to the market for the settlement residue payments. In this respect the existing Rule 6A.29 could provide a reference point to ensure consistency with transmission revenue management. However, the AEMO noted that Rule does not set down clear responsibility for the identification process and it is not always obvious from the revenue cap determinations as to the identity of the appropriate TNSP. For example, there is no clear statement that Transend is the sole TNSP in Tasmania and in Victoria it is not clear as to whether AEMO or SP Ausnet is the coordinating NSP.

Following further investigations it has been confirmed that there is clarity provided in the NER at Schedule S6A4.2(k) as to the identity of the coordinating NSP for Victoria (and any other region with a declared shared network of an adoptive jurisdiction) and as to the identity of the coordinating NSP in the revenue determinations. Accordingly, the Commission is satisfied that it does not require an amendment to the Rules to set out the process for the identification in each region of a specific TNSP.

The Commission accepts the view of the AER, supported by Grid Australia that the process for identifying the appropriate TNSP can be simplified. For these reasons, the Final Negative IRSR Amounts Rule defines the appropriate TNSP for the purposes of funding negative settlements residues to be the importing region's TNSP to which a transmission determination currently applies where there is only one TNSP in a region. The coordinating NSP is the appropriate TNSP where there is more than one TNSP within a region.

5.4.3 The appropriate TNSP for the purposes of Clause 3.6.5(a)(3)

The AEMO referred to clause 3.6.5(a)(4B) of the Draft Negative IRSR Amounts Rule, under which the AER identifies the appropriate TNSP. The AEMO pointed out that this does not address the reference to current clause 3.6.5(a)(3) of the Rules which relates to appropriate TNSPs as recovering from or receiving distributions regarding remaining positive and negative settlement residues. AEMO requested that the application of clause 3.6.5(a)(4B) be specifically extended to clause 3.6.5(a)(3) for clarity as to the identity of the appropriate TNSPs referred to in that clause.[35]

The Commission did not receive any specific comments on this issue from any stakeholders as part of the additional consultation on this matter. Following consideration of this issue, the Commission is of the view that the appropriate TNSP for the purposes of clause 3.6.5(a)(3) should be defined as follows:

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[34] AEMO Supplementary Submission, p 1.

[35] AEMO Submission , p 3.

- for intra-regional settlement residues, the appropriate TNSP for regions where there is one TNSP, it is the sole TNSP to which a transmission determination currently applies and for regions where there is more than one TNSP then it is the coordinating NSP; and

- for negative inter-regional settlement residues and distribution of any positive inter-regional settlement residues for example arising from as un-sold auction units, the appropriate TNSP for regions where there is one TNSP, it is the importing regions sole TNSP to which a transmission determination currently applies and for regions where there is more than one TNSP then it is the coordinating NSP.

5.4.4 AEMO's discretion to determine payment method and interval for negative settlement residues

AEMO raised the potential conflict between current clause 3.15.16 of the Rules and proposed clauses 3.6.5(a)(4) and 3.6.5(a)(4A) included in the draft Rule. AEMO suggested that in order for the proposed clauses to operate effectively, it is necessary that the proposed clauses be drafted such that they take precedence over current clause 3.15.16. [36]

Clause 3.15.16 of the Rules stipulates the current payment arrangements for market participants. It requires TNSPs to pay AEMO the amount shown on the final statement at a certain time. Clauses 3.6.5(a)(4) and 3.6.5(a)(4A) of the Draft Negative IRSR Amounts Rule provided for alterative payment arrangement for TNSPs. They provide AEMO with the discretion to determine the payment interval and method with respect to negative settlements. However, these provisions do not release TNSPs from the current obligation under clause 3.15.16 of the Rules.

The Commission considers that AEMO's suggestion would provide clarity and certainty as to the operation of the proposed clauses and has decided to adopt AEMO's suggestion. Accordingly, clause 3.6.5(a)(4)(ii) and clause 3.6.5(a)(4A)(ii) in the Final Negative IRSR Amounts Rule provide:

> 'despite clause 3.15.16, the appropriate *Transmission Network Service Provider* must make the payment at the time and payment interval, and by the method, determined by *AEMO*.'

5.4.5 Timing for the implementation of the Negative IRSR Rule

AEMO stated that the current drafting does not provide that the AER's determination of the appropriate TNSP to be billed occurs prior to AEMO's settlement obligations taking effect. The AEMO sought certainty that the AER's determination occurs prior to its settlement obligations. AEMO also stated that it will be required to determine the TNSP payment interval and method. AEMO estimates

[36] AEMO Submission, p 3 – 4.

they will need approximately 3 months from the AEMC's final determination or one month from the AER's determination, whichever is later.[37]

These issues are no longer relevant as the Final Negative IRSR Amounts Rule does not provide for the AER to make a determination as to the appropriate TNSP. The decision to commence this Rule from 1 July 2010 ensures that the AEMO will have sufficient time to establish payment methods.

5.4.6 Rectifying minor drafting errors

Grid Australia identified that a drafting error had been made in clauses 3.6.5(a)(4) and 3.6.5(a)(4A) where references were made to the savings and transitional clauses. This has been addressed in the Final Negative IRSR Amounts Rule.

5.5 Commission's assessment

The Commission has analysed and assessed the issues arising out of submissions made in response to the Draft Rule Determination and the Draft Negative IRSR Amounts Rule. The Final Negative IRSR Amounts Rule is reflective of the Draft Negative IRSR Amounts Rule, subject to the amendments discussed in section 5.4.

The Commission is satisfied that the Final Negative IRSR Amounts Rule will or is likely to contribute to the achievement of the NEO. This is because it would improve the 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 efficency by increasing competition in the inter-regional contract market.

The Final Negative IRSR Amounts Rule:

- ensures that the costs of funding negative settlement residues are borne by customers benefiting from the counter-price flow that led to the negative settlement residue in the first place, in that the counter-price flow may have led to a lower regional reference price in the importing region than would otherwise have been the case;
- by allowing the importing region to fund negative settlement residue this should improve the transparency and certainty of the negative settlement residue recovery process;
- improves the 'firmness' of the positive settlements residues thereby ensuring that it is an effective hedging instrument for managing inter-regional risk; and

[37] AEMO Submission, p 4.

- would foster competition in inter-regional contract market thereby improve liquidity and promote dynamic efficiency.

6 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 MCE Congestion Information Resource Rule in detail, the key recommendations and reasoning supporting that proposed Rule are summarised below in sections 6.1 and 6.2. Section 6.3 reproduces from the Draft Rule Determination the assessment of the issues arising out of the Rule Change Proposal. Sections 6.4 and 6.5 assess the issues arising out of submissions received in response to the Draft Rule Determination, including the Draft Congestion Information Resource Rule.

The recommendations contained in the CMR Final Report are current, relevant and present a sound basis from which to assess the proposed MCE Congestion Information Resource Rule as well as the Draft Congestion Information Resource Rule.

6.1 Description of the proposed Congestion Information Resource Rule

The proposed MCE Congestion Information Resource Rule would require AEMO (formerly NEMMCO) to publish a Congestion Information Resource (CIR) in accordance with Congestion Information Resource Guidelines that would provide periodically updated information to the market on planned network events affecting dispatch along with information on historical patterns and incidence of mis-pricing. An interim CIR was also proposed for the short term.

The CIR would 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 would enable market participants to be more informed when making contracting and investment decisions in the presence of network congestion.

The CMR Final Report summarised the recommendations in relation to the proposed Congestion Information Resource Rule as follows.

6.1.1 Publication of real-time information on planned network events

This CIR would include periodically updated information on planned network events that affect dispatch. Planned network events were 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, would 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 was also considered to be 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

The CIR would include historical data on mis-pricing pertaining to the incidence of congestion in the NEM. Mis-pricing; would be defined as the difference between the Regional Reference Price (RRP) and an estimate of the marginal value of supply. Publishing such information would be useful in identifying points of congestion and assist investors in their decision-making process.

The reasoning for the proposed Congestion Information Resource Rule is set out in Appendix B.

6.2 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 4.2 above, the CMR recommendations and rationale present a sound and robust basis from which to consider the proposed MCE Congestion Information Resource Rule which is the subject of this Rule Change Proposal.

Section 4.2 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.

The proposed Constraint Formulations Rule, that is part of this package of Rules, does not 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.

6.3 Assessment of proposed Congestion Information Resource Rule

In the Draft Rule Determination, the Commission reviewed the proposed MCE 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 new Rules since the completion of the CMR Final Report and other developments.

In the Draft Rule Determination, the Commission also assessed the proposed Congestion Information Resource Rule, together with amendments identified by the Commission, against the Rule making test.

6.3.1 Consistency with the CMR Final Report

In the Draft Rule Determination, the Commission concluded that the proposed MCE Congestion Information Resource Rule was consistent with the recommendations and rationale in the CMR Final Report. The proposed MCE Rule was 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 AEMO to publish information on the incidence of congestion using historical data on mis-pricing.

The proposed MCE 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(z);

- 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.

6.3.2 Proposed Amendments

In the Draft Rule Determination, the Commission largely adopted the proposed MCE 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.

6.3.3 Rule making Test

In the Draft Rule Determination, the Commission was 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:

- ensured 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; and

- provided 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.

6.4 Issues arising out of consultation on draft Rule determination and draft Rule

The following issues were raised by stakeholders during consultations on the Draft Rule Determination and the Draft Congestion Information Resource Rule.

6.4.1 Timing for the implementation of the Congestion Information Resource

The AEMO has suggested that the CIR should be published 24 months after the Rule commences operation so that the CIR can be integrated with its market management system. The AEMO notes that it would be publishing an interim CIR within six months of the commencement of this Rule. Extending the time period for the publication of the CIR would enable the AEMO to incorporate experience from the interim CIR in their CIR guidelines and in the development of the CIR.[38]

The Commission accepts the proposal by the AEMO because it would enable the experience from the interim CIR to be incorporated in the CIR Guidelines for development of the CIR. Further, the fact that an interim CIR would be in place within six months of the commencement of this Rule, would ensure that the

[38] AEMO Submission 2009, p 4.

objectives of this Rule would be largely met. The Final Congestion Information Resource Rule has been amended to provide for the publication of the CIR 24 months after commencement of the Rule.

6.4.2 Timing for the implementation of the Congestion Information Resource Guidelines

The AEMO has suggested that the CIR guidelines be published and developed within 12 months after the Rule commences operation (rather than six months which was included in the Draft Congestion Information Resource Rule). The additional 6 months will give adequate time for the interim CIR to operate, which would then inform the development of the CIR guidelines.[39]

The Commission has accepted the AEMO's suggestion because it would enhance the quality of the CIR guidelines by recognising that the interim CIR will inform the development of these guidelines. The Final Congestion Information Resource Rule has been amended to provide for the publication of the CIR guidelines 12 months after commencement of the Rule.

6.4.3 Broadening the definition of network support agreement

The AEMO has suggested that the definition of a 'network support agreement' be broadened to include network support agreements between service providers and parties not registered in the NEM (as well as market participants). By broadening the definition of network support agreements, this definition would cover a wider range of parties that make agreements with network service providers.[40]

The Commission agrees with AEMO's suggestion because it would ensure that the definition is comprehensive and accurately captures all parties involved in network support agreements. The definition has been amended accordingly in the Final Congestion Information Resource Rule.

6.4.4 Connotations of the definition of 'mis-pricing'

In the AEMO's view, the term 'mis-pricing' may suggest a negative connotation; possibly referring to an error or defect in market pricing outcomes. The AEMO suggested the term 'congestion pricing' or 'congestion price' be used instead so that those unfamiliar with the concept are better able to understand it, without negative connotations.[41]

The term 'mis-pricing' appropriately describes the difference between prices at the regional reference price for a region and an estimate of the marginal value of supply at the network node. The term 'congestion pricing' has been used in a different

[39] AEMO Submission, p 5.

[40] AEMO Submission, p 5.

[41] AEMO Submission, p 5.

context by the Commission and as such is not an appropriate term for the purposes of this Rule.[42] Any perception that the term 'mis-pricing' has negative connotations can be managed by the fact that this is a defined term in the Rules; and by ensuring that the defined term is clearly and consistently applied. Accordingly, the Commission has not made any changes in this regard.

6.5 Commission's Assessment

The Commission has analysed and assessed the issues arising out of submissions made in response to the Draft Rule Determination and the Draft Congestion Information Resource Rule. The Final Congestion Information Resource Rule is reflective of the Draft Constraint Formulations Rule, subject to the amendments discussed in section 6.4.

The Commission is satisfied that the Final Congestion Information Resource Rule will or is likely to contribute to the achievement of the NEO. This is 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 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.

The Congestion Information Resource Rule:

- ensures the provision of higher quality information in the form of a CIR that should facilitate more informed decision-making on the part of market participants, including investors and, as such, should increase the efficiency of the NEM; and

- provides information with respect to planned network events and on the patterns and incidence of mis-pricing, an understanding of which should assist in the identification of actual and potential sources of congestion. This should 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.

[42] AEMC 2009, Review of Energy Market Frameworks in light of Climate Change Policies: 2nd Interim Report, June 2009, Sydney, p 34.

7 Network Augmentations

The MCE 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 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 the proposed Network Augmentations Rule

This proposed MCE Network Augmentations Rule would make two amendments to the Rules to achieve the following outcomes:

- 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.

It would involve the following amendments to the Rules:

- insertion of new Clause 5.4A(f)(5) – to ensures 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).

The reasoning for the proposed MCE Network Augmentations Rule is set out in Appendix B.

7.2 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 MCE Network Augmentations Rule seeks to address are being considered by the Climate Change Review, together with a number of related network connection and augmentation issues.

7.3 Commission's assessment

In the Draft Rule Determination the Commission concluded that 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 Group supported the Commission's Draft Rule Determination on this point.[43] The Group submitted that the proposed MCE Network Augmentations Rule should not proceed on the basis that it introduced uncertainty with respect to the access arrangements and that it is being considered as part of the Climate Change Review.

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), consideration of the proposed Rule at this time would not be appropriate. 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 subject to further consideration as part of the recommendations coming out of the Climate Change Review.

[43] Group Submission, p 5.

A Description of Proposed MCE Rules and fast track process

A.1 MCE Proposed Rules

A.1.1 Draft National Electricity Amendment (Fully Co-optimised and Alternative Constraint Formulations) Rule (Constraint Formulations Rule).

The aim of this proposed Rule was 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 AEMO a more structured framework under which to operate.

This proposed Rule would oblige AEMO 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 proposed Rule would require AEMO 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 AEMO's intervention policy with respect to managing negative settlement residues.

A.1.2 Draft National Electricity Amendment (Negative Inter-regional Settlements Residue Amounts) Rule (Negative IRSR Amounts Rule).

This proposed Rule aimed 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 was 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.[44] This issue, however, was the subject of a separate Rule change request from AEMO.[45]

A.1.3 Draft National Electricity Amendment (Congestion Information Resource) Rule (Congestion Information Resource Rule).

This proposed Rule sought 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 AEMO, 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.

A.1.4 Draft National Electricity Amendment (Network Augmentations) Rule (Network Augmentations Rule).

The aim of this proposed Rule was 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.

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[44] Rule Change Proposal, Part 2, p 1.

[45] AEMC 2009, *Negative Settlements Residue Recovery, Extension of Sunset*, Final Rule Determination, 16 April 2009.

A.2 Fast track process

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

- the MCE 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.[46]

These four Rule changes were proposed by the MCE based on recommendations made in the CMR Final Report, 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.

[46] Refer to sections 96A(1)(b) and 96A(2)(b) of the NEL.

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

B Reasoning for proposed MCE Rules

B.1 Proposed MCE Constraint Formulations Rule

The proposed Rule change sought to increase the transparency and accountability of AEMO 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 should thus improve the decision-making of market participants.

B.1.1 Formalising constraint formulation

The physical limits of the network are represented mathematically in NEMDE (AEMO's linear program dispatch engine) as constraint equations.[47] These constraint equations have a left-hand side (LHS) and a right-hand side (RHS). Terms on the LHS can be directly controlled by AEMO whereas terms on the RHS cannot be controlled. During the dispatch process, AEMO uses these constraint equations to define the set of permissible solutions. As changes occur in the physical network, AEMO 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 AEMO is consistent and transparent in how it formulates constraint equations. Market participants also need to understand how AEMO develops and implements new constraint equations and modifies existing ones, if they are to understand the commercial implications of security-constrained dispatch.

From July 2004, AEMO 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 AEMO to achieve a more optimal dispatch of all possible control variables and thereby improves AEMO's ability to manage system security. More efficient use of the network improves AEMO's ability to maintain supply reliability and can lead to a lower dispatch cost.

[47] Constraint equations provide mathematical descriptions of the physical network. They explain how different variables in the market affect flows across the network. AEMO 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 AEMO the ability to control the most number of variables in the dispatch process.

In May 2005, the MCE endorsed AEMO's formal adoption of the fully co-optimised constraint formulation.[48] 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 AEMO uses this formulation, the CMR Final Report recommended that the constraint formulation be formalised in Chapter 3 of the Rules.

In some exceptional circumstances AEMO currently uses an ACF that is not fully co-optimised. AEMO uses ACFs where they will deliver greater security in the power system compared to using a fully co-optimised constraint formulation.[49] 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 AEMO 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.[50]

In summary, AEMO 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 AEMO would use an ACF.

B.1.2 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 AEMO documents. There is no requirement in the Rules for AEMO to follow or apply these documents. This means the requirements to keep participants informed during the processes are also quite limited.

In the CMR Final Report the Commission stated that these various documents should be consolidated into a set of guidelines, giving market participants sufficient information to understand AEMO's methodology for formulating constraint equations, its process for developing them, and its process for using them.[51] This, in turn, would assist participants to assess the impact of constraints on dispatch and pricing. The Commission stated that the AEMO should develop these guidelines in consultation with stakeholders and, once the Guidelines are published, AEMO should be obliged to comply with them. This would facilitate any review as to whether there are any inconsistencies in AEMO's application of its methodology and processes. AEMO is to amend these guidelines as necessary.

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[48] Statement on NEM Electricity Transmission.

[49] CMR Final Report, p 119.

[50] CMR Final Report, p 120.

[51] CMR Final Report, p 122.

B.1.3 Managing Negative Inter-regional Settlements Residues

Under the proposed Rule AEMO would develop guidelines that, among other things, identify its policy on how it will manage negative settlements residues. In order to ensure that AEMO's use of this intervention is as transparent, certain and predictable as possible, the CMR Final Report recommended that AEMO 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 AEMO 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 AEMO 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 AEMO'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.

B.2 Proposed MCE Negative IRSR Amounts Rule

This proposed MCE Rule change sought 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.

B.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. AEMO explains this process, which is outlined below.

The IRSR is the result of inter-regional price differences and inter-regional power flows.[52] It typically arises when Market Customers pay more than the supplying Generators are required to receive.[53]

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).

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[52] AEMO, 2008, *Settlements Residue Auction Information Memorandum 1 July 2008,* p.11

[53] AEMO, 2008, *Settlements Residue Auction Information Memorandum 1 July 2008,* p.7

The SRA is conducted in the month preceding 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.[54]

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.[55]

B.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 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.

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54 AEMO 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 AEMO, 2008, *Settlements Residue Auction Information Memorandum 1 July 2008,* p.11-32.

55 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.

B.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 settlements residues remain after the netting-off, they are recovered from SRA proceeds for the same-direction interconnector. The current mechanism for funding negative settlements residues has the effect of reducing the value of IRSR units as an inter-regional hedging instrument. [56]

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.[57]

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.

B.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 transmission network service provider (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 AEMO the flexibility to recover negative settlement residues in a timely manner rather than having to wait for the quarterly auctions.

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[56] CMR Final Report, p 27.

[57] CMR Final Report, p 162.

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.[58]

B.3 Proposed MCE Congestion Information Resource Rule

Provision of timely and accurate information with respect to planned network events and outages would 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.

B.3.1 Current Information on planned network events

Market participants must manage the impact of constraints, and when they cannot accurately predict the timing of constraints, they are exposed to both physical and financial risk.

Currently, AEMO 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 AEMO 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 AEMO to publish the information in the NOS and continue to require AEMO to publish the PNO information. This information would 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 AEMO 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

[58] CMR Final Report, p 161.

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

B.3.2 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 AEMO 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 AEMO 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, would be of considerable benefit to participants.[59] Information about events (including but not limited to network outages) that may result in different constraint equations being formulated and/or invoked should be published.. Information on such events would 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 AEMO 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.[60] The NOS does not currently provide all this information. Such information may also place greater discipline on TNSPs and/or AEMO to schedule accurately outages, as far as practicable.

AEMO 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 would help address this problem.

The CMR Final Report recommended that AEMO should develop and publish information that enables market participants to understand patterns of network congestion.[61] This includes information to help predict the nature and timing of events that are likely to affect materially what constraints AEMO uses in dispatch.

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[59] CMR Final Report, p 208.

[60] CMR Final Report, p 209.

[61] CMR Final Report, p 210.

This information would be included in a dedicated CIR, which would also include information on mis-pricing, which is discussed next.

B.3.3 Information on Mis-pricing

During the CMR process, the Commission recommended that AEMO 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.[62]

The routine publication of mis-pricing information would 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 would assist participants in identifying areas where they themselves can negotiate such agreements.

Investors would 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 would help inform investment location decisions, identifying possible congested areas and therefore prompting a comprehensive assessment of congestion at a preferred location.

B.4 Proposed MCE 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

[62] AEMC, Directions Paper, Congestion Management Review, 12 March 2007, p.60.

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.

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