

Australian Energy Market  
Commission

**National Transmission Planning  
Arrangements**

Draft Report

2 May 2008

**Commissioners**

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## **About the AEMC**

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

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## Abbreviations

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ANTS	Annual National Transmission Statement
APR	Annual Planning Report
COAG	Council of Australian Governments
Code	National Gas Code
Commission	see AEMC
DNSP	Distribution Network Service Provider
ERIG	Energy Reform Implementation Group
ERAA	Energy Retailers Association of Australia
ESAA	Electricity Supply Association of Australia
ESIPC	Electricity Supply Association of Australia
ETNOF	Electricity Transmission Network Owners Forum
EUAA	Energy User Association of Australia
IRPC	Inter Regional Planning Committee
ISO	Independent Systems Operator
kV	Kilovolt
JPB	Jurisdictional Planning Body
LRPP	Last Resort Planning Power
MAR	Maximum Allowed Revenue
MCE	Ministerial Council on Energy
MNSP	Market Network Service Provider
MOWG	Market Operator Working Group
NCAS	Network Control and Ancillary Services
NEL	National Electricity Law
NER/Rules	National Electricity Rules
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company

NPV	Net Present Value
NSP	Network Service Provider
NTFP	National Transmission Flow Path
NTP	National Transmission Planner
NTNDP	National Transmission Network Development Plan
RFI	Request for Information
RIT-T	Regulatory Investment Test for Transmission
SCO	Standing Committee of Officials
SO	System Operator
SOO	Statement of Opportunities
TNSP	Transmission Network Service Provider
TO	Transmission Operator
TUoS	Transmission Use of System
VCR	Value of Customer Reliability
VENCorp	Victoria Energy Network Corporation

## Summary

This is the Draft Report of the Australian Energy Market Commission (AEMC or Commission) on establishing national transmission planning arrangements for the National Electricity Market (NEM). The Commission is undertaking this review at the direction of the Ministerial Council for Energy (MCE) will submit its Final Report to the MCE in June 2008.

The Draft Report sets out recommendations and supporting reasoning in three areas, and provides draft legal text in the form of proposed changes to the National Electricity Law (NEL) and National Electricity Rules (the Rules) to give practical effect to the recommendations. The three areas are:

- Establishing a National Transmission Planner as one of the functions of the proposed new Australian Energy Market Operator (AEMO);
- Creating a new process of consultation and assessment by Transmission Network Service Providers (TNSPs) when considering network investment, to replace the current Regulatory Test; and
- Reforming the framework of economic regulation for TNSPs in respect of transmission charging across TNSP regional boundaries, and to recognize the establishment of the NTP.

Submissions are invited from stakeholders on the recommendations, supporting reasoning and draft legal text by 30 May 2008.

### Context for the review

The MCE's direction to the Commission followed a review by the Energy Reform Implementation Group (ERIG), which reported to the Council of Australian Governments (COAG) in January 2007. The ERIG Report highlighted a range of matters relating the energy market and supporting regulatory framework. Key elements of the ERIG report endorsed by COAG at its meeting on 13 April 2007 included the creation of an Australian Energy Markets Operator (AEMO) and strengthened national transmission planning arrangements. Subsequently, the MCE directed the Commission to undertake this review. The MCE also directed the Commission to undertake a review of transmission planning standards for reliability across the NEM, with a view to providing for a nationally consistent framework. The Commission requested the Reliability Panel to provide advice on this and their Draft Report was published on 24 April 2008.

The MCE direction requires the Commission to develop a detailed implementation plan for the National Transmission Planner, and for a new process of consultation and assessment for transmission network investments to replace the current Regulatory Test. COAG and the MCE have provided a degree of guidance and prescription on the characteristics of the new arrangements. Specifically, it is required that:

- The AEMO will be directly responsible for undertaking the functions of the National Transmission Planner;
- The NTP will publish a National Transmission Network Development Plan (NTNDP) each year. The NTNDP will outline the long-term, efficient development of the power system, including future and current capability of the national transmission network and development options;
- The NTNDP will not replace local planning or bind transmission companies to specific investment decisions, override TNSP performance standards, or constrain the timeframes for the revenue approval process for transmission companies. Nor would it bind the Australian Energy Regulator (AER); and
- The process of consultation and assessment for transmission investments to replace the current Regulatory Test will remove the current distinction between mandatory reliability and discretionary economic investments and ensure that all market benefits, including national market benefits, are properly considered across the range of relevant options.

In developing this Draft Report the Commission has consulted extensively within the framework provided by COAG and the MCE. A Scoping Paper was published in August 2007, and an Issues Paper was published in October 2007. A public forum was held in April 2008 supported by a published Discussion Paper. All the relevant material generated through this consultation process can be found on the Commission's website. The Commission has supplemented this extensive public consultation process with a series of bilateral meetings with key stakeholders.

## **Establishing a National Transmission Planner**

### *Establishment and functions*

The Commission recommends that the NTP, its functions and the associated governance arrangements are defined in the National Electricity Law (NEL). The NTP is a key COAG initiative and should have commensurate visibility and permanence as a feature of the regulatory regime for the NEM. The AEMO responsibility for the NTP functions, and the objective of the NTP should also be defined in the NEL. The NTP objective should refer directly to, and maintain the primacy of, the National Electricity Objective.

The core function of the NTP is to prepare and publish the NTNDP each year. The Commission recommends that this be supported by a requirement for the NTP to publish a database of information, data and methods used in producing the NTNDP. A high-quality NTNDP will be based on robust and demonstrably transparent analysis. The obligation to publish a database of information used to derive the plan will contribute significantly to this and will assist both public and private sector investors.

The focus of the NTNDP should be strategic and long term, looking out 20 years at a minimum. The Commission recommends that the strategic nature of the NTNDP is given practical effect by focusing the NTNDP on National Transmission Flow Paths

(NTFPs). The scope of the NTNDP includes all those transmission elements which are part of or materially affect the transfer capacity of the NTFPs. The NTNDP will map out development strategies under a range of scenarios for the efficient delivery of transmission capability across the NTFPs. The development strategies are likely to involve a combination of network and non-network solutions and assess the optimisation of generation and transmission investment. The precise pattern of the NTFPs may change over time, and may vary across planning scenarios, and this framework enables the NTP to respond dynamically to changing circumstances and new information while avoiding the risk of being drawn into the detail of localised planning issues.

The NTNDP will be a substantial improvement on the current ANTS. The NTP will be required and resourced to produce its own development strategies, including, its own transmission investment options. The NTNDP will therefore be less reliant on conceptual augmentations suggested by the TNSPs. The NTNDP will look at both reliability and market benefits projects and will provide a deeper and longer term scenario-based assessment of power system development to the market.

#### *The NTP and local transmission planning*

The NTNDP and the shorter-term investment planning activities of the TNSPs should work to complement each other in promoting efficient outcomes for consumers. The Commission recommends that the NTP must have regard to the Annual Planning Reports of each TNSP in preparing the NTNDP, and that each TNSP must have regard to the NTNDP in their Annual Planning Reviews. TNSPs must also explain how their investment plans relate to the NTNDP in their Annual Planning Reports, and the NTNDP will also contain a consolidated summary and commentary on the Annual Planning Reports of each of the TNSPs.

Additionally, the Commission recommends that the NTP has the discretion to make submissions to the consultation processes undertaken by each TNSP under the Regulatory Investment Test for Transmission, and by the AER is determining the revenue allowances of each of the TNSPs based on forecasts of required expenditure submitted by the TNSPs. The NTP can add most value to this process by focusing on the proposals that affect NTFPs, given that this will be the NTP's area of detailed knowledge and expertise.

#### *Focus and accountability*

The NTP is a priority COAG initiative to facilitate the efficient future development of the national transmission network. It is being established at a time when the tightening energy supply-demand balance and prospective climate change policies are highlighting the importance of timely and efficient network investment.

There are many benefits in the AEMO undertaking the functions of the NTP. These include the efficient use of technical resources and the ability to understand and take into account interactions between the gas and electricity networks and markets. However, the NTP will be established at the same time as the AEMO itself is being created with a number of other new functions as well as the ongoing NEMMCO functions. It will therefore be important to ensure that the transmission planning

function has clear focus, visibility and accountability and access to the relevant technical experience and expertise.

The high priority for, and focus of the NTP, is reflected in the range of arrangements recommended by the Commission. These include: the recommendation for the AEMO to establish an expert Advisory Committee to support its planning functions, with a review of its continuing need in five years time; the requirement for the AEMO to consult on the budget and work plan of the NTP; and the key recommendations for broad and inclusive consultation in developing the NTNDP and publication of an associated database of analyses and assumptions.

Maintaining focus and transparency to stakeholders over how the NTP function is being prioritised, resourced and implemented will be particularly important because the value of the NTNDP for stakeholders, including prospective investors in the NEM, will depend on its credibility as an analytically robust and balanced document.

Noting that the AEMO will also be the system operator and a planner and procurer of gas and electricity transmission assets in Victoria (the Vencorp functions) appropriate transparency and accountability arrangements for the planning function will increase the confidence of market participants in the balance and credibility of the NTNDP.

### **Creating a new project consultation and assessment process for TNSPs**

The Commission's recommended new process of consultation and assessment for transmission investment, termed the Regulatory Investment Test for Transmission (RIT-T), provides for a single framework to apply to all transmission investment. As required by COAG, it removes the current distinction between reliability-driven projects and projects focused on the delivery of market benefits.

The RIT-T framework will require consultation on the range of credible options for any given transmission issue, and consultation on a comparative analysis of costs and benefits using a standardized list of classes of costs and benefits. The RIT-T will only apply when the capital cost of any of the technically and economically credible options exceed \$5m in value, with the exception of urgent or unforeseen investments, investments related to the provision of connection or negotiated services, and transmission projects which only involve like-for-like replacement.

The purpose of the new RIT-T is to identify the transmission investment option which maximizes the net economic benefits, and where applicable, meets deterministic reliability standards. This will involve four significant changes to the current Regulatory Test as it applies to transmission companies. First, it increases substantially, the amount of consultation on the options that are available to address any given transmission issue. This will reduce the risk that efficient options are overlooked. Second, it applies more rigor and consistency to the analysis of costs and benefits before transmission investment is undertaken. Again, this is likely over time to promote more efficient decision making. Third, it brings within the scope of the RIT-T network reconfigurations and project which combine replacement and augmentation.

Fourth, the proposed RIT-T will facilitate earlier consultation in the planning process thereby enabling other potential viable non-network options to be identified and assessed appropriately.

In specifying the RIT-T there is a risk of increasing the administrative burden on TNSPs – the costs of which are ultimately borne by consumers – without delivering commensurate benefits. The Commission is recommending that this risk is appropriately managed by requiring the TNSP in each application of the RIT-T to identify and consult on which classes of benefits are likely to be materially relevant to the decision being made. The TNSPs will need to apply judgment, supported by reasoning and analysis, to justify the specification of the RIT-T in any given case, and stakeholders will have the opportunity to comment. In addition, the Commission is proposing to add more clarity and specification to the dispute resolution process to minimise the possibility of the planning process being unnecessarily delayed.

As noted above, these reforms are taking place at the time of tightening energy supply-demand balance and increasing focus on the impacts to climate change and the policy response to climate change. Therefore it is important that the RIT-T can accommodate these developments and ensure that the relevant instruments which value carbon are treated appropriately. The Commission invites views on whether the proposed RIT-T does this.

### **Alignment of TNSPs Revenue Determination periods**

The MCE direction required the Commission to consider the case for aligning the dates of all TNSP revenue determination periods. The Commission, in the light of its review of the issues, does not recommend alignment. The cost of implementation are likely to be significant, while the benefits would not appear to be material. The publication of the annual NTNDP and the contingency project mechanism will help to facilitate national co-ordinated investment. The Commission does, however, note that alignment of transmission and distribution re-sets within a particular geographic area might have merit. Further work on this issue could be undertaken if considered to be appropriate by the MCE.

### **Reforming inter-regional transmission charging**

A key policy issue facing the development of a national and co-ordinated electricity market is how to allocate costs for projects that deliver market benefits over more than one jurisdiction. Currently a TNSP recovers its own costs in building and operating the network from customers within its region. Under the Rules, deviations from this approach require inter-governmental negotiation and agreement. While the issue of inter-regional charging is not formally within the scope of the MCE direction, the Commission considers it to be closely linked to the underlying objective of promoting a more efficient, nationally co-ordinated transmission network.

The absence of effective arrangements for recovering the costs of transmission across regional boundaries reduces the cost-reflectivity of transmission charges, and has the potential to influence investment planning. A lack of cost-reflective charges can

reduce efficiency, and has distributional impacts across classes of customer. These issues are likely to be more significant over time as the NEM become more integrated and interconnected.

The Draft Report sets out for consultation four approaches to reforming inter-regional charging. In the light of stakeholder feedback on these approaches the Commission will recommend to the MCE a policy direction and an associated program of work to further develop the preferred model for implementation.

### **Next steps**

The Commission invites stakeholders to make submissions on the recommendations, reasoning and associated draft legal text by 30 May 2008. The Commission will reviews its positions in the light of these submissions before providing a Final Report to the MCE by 30 June 2008.

Send submissions electronically to [submissions@aemc.gov.au](mailto:submissions@aemc.gov.au)

Or mail to:  
Australian energy Market Commission  
PO Box A2449  
SYDNEY SOUTH NSW 1235

# 1 Introduction

This Draft Report sets out the Australian Energy Market Commission's (AEMC or Commission) proposed recommendations for the implementation of a strengthened national electricity planning function and a revised network planning and consultation process to replace the current Regulatory Test. The Commission was directed to undertake a review on these matters by the Ministerial Council for Energy (MCE) in July 2007. The MCE requested a Final Report by June 2008.

This chapter introduces the Draft Report by briefly outlining the following:<sup>1</sup>

- The policy context for the review;
- The Commission's approach and process;
- The structure of the Draft Report;
- Implementation of the new arrangements;
- Details for making submissions to the Draft Report

## 1.1 Policy context for the review

### 1.1.1 The MCE's direction to the AEMC

As part of the reform process initiated by Council of Australia Governments (COAG), in response to the Energy Reform Implementation Group (ERIG) recommendations<sup>2</sup> on achieving a fully national and efficient energy market, the MCE under Section 41 of the National Electricity Law requested the Commission to conduct a Review on the implementation of a strengthened national electricity transmission planning function.

The MCE directed the Commission to deliver a detailed implementation plan including the most appropriate legislative amendments and rule changes to implement COAG's response to ERIG's recommendations on Electricity Transmission Planning and Regulation (COAG Communiqué). The COAG Communiqué sets out the scope of the review to cover:

- Development of an implementation plan for the national transmission planning function, including arrangements for the preparation of a minimum 10 year National Transmission Network Development Plan (NTNDP) to be updated annually;

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<sup>1</sup> Further information on the background and context of this Review has been provided in the Commission's Scoping Paper and Issue Paper.

<sup>2</sup> Energy Reform Implementation Group, *Energy Reform: The Way Forward for Australia*, January 2007.

- A revised transmission network planning and consultation process to replace the current 'Regulatory Test' with an assessment process that amalgamates the reliability and market benefits criteria of the current Test and expands the definition of market benefits to include national benefits; and
- Consideration of the case for simultaneous determination of TNSP revenue caps, in place of the current sequential reviews to further reinforce the national character of planning arrangements.

The COAG Communiqué also provides guidance on the required characteristics of the national transmission planning function for which the Commission is required to develop a detailed implementation plan, including that:

- Where possible, the new regime must at a minimum be no slower than the present time taken to gain regulatory approval for transmission investment;
- There must be provision for urgent and unforeseen investment to be made, when required;
- The NTNDP must not be binding on transmission companies;
- The AER is to have regard to the NTNDP when making revenue determinations, but the AER is not to be bound by it;
- The jurisdictional roles of VENCORP and ESIPC are to be preserved; and
- Accountability for transmission investment, operation and performance should remain with transmission service providers.

### **1.1.2 Related policy issues**

#### **Review of transmission network reliability standards**

The MCE has also directed the Commission to conduct a review into the electricity transmission network reliability standards, with a view to developing a consistent national framework for NEM reliability and security. The MCE requires the Commission to provide it a final report by 30 September 2008.

The Commission has requested the Reliability Panel (Panel) to consider and provide advice on this issue. The Panel has released a draft report on 24 April 2008, which set out a range of possible options to implement a consistent framework<sup>3</sup>. The Panel will submit a final report by 30 July 2008, so that the Commission can consider the Panel's advice in the context of the Commission's other recommendations to the MCE concerning: the role and functions of a National Transmission Planner, and a new Regulatory Investment Test for transmission.

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<sup>3</sup> AEMC Reliability Panel 2008, *Towards a Nationally Consistent Framework for Transmission Reliability Standards*, Transmission Reliability Standards Review - Draft Report, 23 April 2008.

## **AEMO Implementation**

A key component of the reforms agreed to by COAG in response to the ERIG report is the establishment of a national energy market operator (Australian Energy Market Operator or AEMO). The AEMO will be responsible for the operation and administration of the power system (currently performed by NEMMCO) and will be the planned Gas Market Operator. It will also take over the functions currently performed by VENCORP, including the electricity transmission planning and procurement function for Victoria. The MCE established a National Market Operator Working Group (MOWG) to provide recommendations on the implementation of the AEMO. A synopsis of the work of the MOWG was published on 12 March 2008.<sup>4</sup>

## **Other related AEMC work**

The National Transmission Planning Arrangements Review has been conducted in a context of a wider series of policy reform in relation to the provision of transmission services and the regulation of transmission companies. The key changes and review processes since October 2005 which set the wider context for the NTP Review are:

- Rule changes in respect of the Economic Regulation of Transmission Services
- Last Resort Planning Power (LRPP);
- 2006 Review of Regulatory Test Principles;
- Comprehensive Reliability Review;
- Congestion Management Review; and
- Demand Side Participation Review.

Appendix B provides more detail on the policy and status of these reforms.

Further, during the course of this Review, the Commission received two Rule Change Proposals which related to issues being considered under this Review. The first Rule Change was proposed by the Total Environment Centre (TEC).<sup>5</sup> The TEC's rule change proposal sought to facilitate the increased use of demand-side resources by placing requirements and incentives on supply-side participants to investigate and then undertake demand side solutions. The Commission is currently preparing its draft Rule determinations on both of these proposals.

The second rule change was proposed by Grid Australia (formerly known as ETNOF) and sought the following<sup>6</sup>: to increase the regulatory test thresholds for new large and small augmentations; to index the Regulatory Test's monetary thresholds

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<sup>4</sup> MCE, Australian Energy Market Operator Implementation Plan Synopsis, 12 March 2008,

<sup>5</sup> Total Environment Centre, *Rule Change Proposal- Demand Management and Transmission Networks*, November 2007

<sup>6</sup> Grid Australia (formerly known as ETNOF), *Regulatory Test Thresholds- Rule Change Proposal*, 21 November 2007

to movements in the Producer Price Index; and to require TNSPs to disclose certain information on all proposed replacement network assets in excess of 5 million dollars in their Annual Planning Reports.

## **1.2 The Commission's approach and process**

### **1.2.1 Consultation process**

The Commission has held extensive consultation with market participants and other stakeholders to inform the preparation of this Draft Report. This was a key requirement specified in the MCE terms of reference. It has published a Scoping Paper in August 2007 and an Issues Paper in October 2007. It has also hosted a public forum, and published a supporting Discussion Paper, in April 2008. The Commission has also held a number of briefing sessions and bilateral meetings with stakeholders. A summary of the submissions to the NTP Public Forum Discussion Paper is contained in Appendix A.

In developing its policy recommendations, the Commission has sought advice from a number of different consultants. Firecone assisted the Commission with respect to the national transmission planning function; Frontier Economics provided advice on the revised Regulatory Test and the Brattle Group in regard to international approaches to transmission planning.

The Commission has published the following series of consultancy reports relating to this Review<sup>7</sup>:

- “International Review of Transmission Planning Arrangements” prepared by the Brattle Group. This study provides a factual description of transmission planning arrangements in international markets with similar characteristics to Australia.
- “The Evolution of Transmission Planning Arrangements in Australia” prepared by Firecone. This report contains a detailed, factual description of the development of transmission planning arrangements for the NEM.
- “Models of Inter-Regional Transmission Charging” from Brattle Group. This report describes the possible approaches to inter-regional charging arrangements, drawing from international experience and provides advice on how to address issues relating to the development of an inter-regional charging system.
- “Advice on the application of Options for an Inter-Regional Charging Mechanism to the NEM” prepared by Frontier Economics. This report provides advice on the possible application of four options for implementing an inter-regional charging mechanism developed by the Commission.

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<sup>7</sup> Copies available on AEMC website.

## 1.2.2 Decision making Criteria for the Review

In undertaking all of its functions, including this Review, the Commission is required by the NEL to have regard to the National Electricity Objective (NEO), which is to:

*Promote efficient investment in, and efficient use of, electricity services in the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system.*

The Commission has interpreted the NEO as encompassing productive, allocative and dynamic efficiency and also taken the scope of the NEO to cover the means by which regulatory arrangements operate as well as their intended ends.

In the Issues Paper, the Commission set out the following decision making criteria for the Review:

- Consistency with the specific wording of, and the broad intent underpinning, the direction provided by the MCE to the Commission in its letter of 3 July 2007;
- Solutions which promote more efficient outcomes over time, and which are proportionate to the materiality of the problems being addressed;
- Application of good regulatory practice and design;
- Application of effective corporate governance and accountability principles; and
- Minimisation of implementation costs and risks – including costs associated with any duplication of functions.

In developing its policy recommendations, the Commission has evaluated the possible options against these criteria, having regard to the submissions made by stakeholders.

Also in applying principles of good regulatory practice and design, the Commission has taken into consideration the principles identified by the Taskforce on Reducing Regulatory Burdens on Businesses Report.<sup>8</sup>

The reasoning as to why the proposed recommendations best implement the COAG Communiqué is set out in the subsequent chapters.

## 1.3 Structure of the Draft Report

The following chapters of the Draft report set out different areas of recommendations. Each chapter starts with a short summary of the recommendations, followed by a more detailed discussion of individual policy

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<sup>8</sup> Taskforce on Reducing Regulatory Burdens on Businesses, <http://www.regulationtaskforce.gov.au/>

positions and the supporting reasoning. Where relevant, the chapters cross-refer to the draft legal text contained in the appendices.

- **Chapter 2** discusses the roles, functions and governance arrangements of the National Transmission Planner
- **Chapter 3** addresses the National Transmission Network Development Plan (NTNDP). It discusses the appropriate the scope of the NTNDP and explains its proposed content.;
- **Chapter 4** discusses the framework for the Regulatory Investment Test for Transmission, in particular the amalgamating of reliability and market benefits and the treatment of national market benefits;
- **Chapter 5** covers the proposed revenue and pricing framework including the issue of inter-regional transmission charging regime and the timing of transmission companies revenue determinations;
- **Chapter 6** provides the Commission's recommendations on the transfer of the various Inter Regional Planning Committee (IRPC) functions into the new arrangements; and
- **Chapter 7** considers how the NTP and RIT-T relate to the regulatory and market framework more generally.

In addition, appendices C and D contain the proposed legislative amendments and Rule changes for the NTP and new Regulatory Investment Test for Transmission respectively.

#### **1.4 Implementation of the NTP Arrangements**

The NTP functions will be one of the functions assigned to the AEMO. AEMO is scheduled to commence operations on 1 July 2009 with the NEMMCO Board retaining all current responsibilities until 30 June 2009.

The transition to AEMO is being managed by an Implementation Steering Committee (ISC) which is liaising with the MCE. The ISC includes the CEOs of NEMMCO, VENCORP, GMC and REMCO. The current focus of this Committee is to assess the key legal considerations, including legislative changes required to implement AEMO and options for AEMO company structures.

The legislative amendments and required Rule changes necessary to implement the NTP arrangements recommended by the Commission in its Final Report to the MCE will form part of the general package of reforms necessary to implement AEMO. Questions of the appropriate transition and sequencing for the NTP implementation will be addressed by the ISC with the more general issues of appropriate transition for the AEMO.

Since the proposed Regulatory Investment Test for Investment process forms part of this Review, these reforms are also planned to be introduced through the AEMO

implementation process. It is proposed that the current version of the regulatory test will continue to apply to any project assessment analysis or related process commenced prior to the promulgation of the new Regulatory Investment Test for Transmission.

## **1.5 Arrangements for making submission to the Draft Report**

The Commission invites written submissions from interested parties in response to the Draft Report by 30 May 2008. Given the short timeframe between close of submissions and publication of the final report, the Commission would welcome timely submissions.

Submissions may be sent electronically or by mail in accordance with the following requirements.

### **Lodging a submission electronically**

The submission must be sent by email to [submissions@aemc.gov.au](mailto:submissions@aemc.gov.au). The email must contain the phrase “National Transmission Planning Arrangements – Draft Report” in the subject line or heading. The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated. The submission must be in PDF format, and must also be forwarded to the Commission via ordinary mail.

Upon receipt of the electronic version of the submission, the Commission will issue a confirmation email. If this confirmation email is not received within 3 business days, it is the submitter’s responsibility to ensure successful delivery of the submission has occurred.

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

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

Australian Energy Market Commission  
PO Box A2449  
Sydney South  
NSW 1235

The envelope must be clearly marked “National Transmission Planning Arrangements – Draft Report”.

Except in circumstances where the submission has been submitted electronically, upon receipt of the hardcopy submission the Commission will issue a confirmation letter. If this confirmation letter is not received within 3 business days, it is the submitter’s responsibility to ensure successful delivery of the submission has occurred.

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## 2 NTP objective, functions and governance

This chapter sets out the key draft policy recommendations on the objective and functions of the NTP, and supporting Advisory Committee, as well as the governance arrangements required to give effect to those functions. The set of recommendations reflect a balance between establishing a new national transmission planning function that has focus, credibility and will encourage efficient transmission and generation investment, while at the same time recognising that accountability for investment will remain with TNSPs.

Each policy recommendation is accompanied by proposed amendments to the Law or Rules (Appendices C (i) and (ii)). Core functions, objectives and powers of the NTP are proposed to be located in the Law; while greater prescription relating to the functions and how they should be undertaken are located in the Rules.

### **Summary of proposed recommendations**

#### **Objective**

The Commission proposes to specify in the Law the following overarching objective for the NTP: “The NTP objective is to contribute to the achievement of the national electricity objective through promoting the efficient, long term and co-ordinated development of the national transmission grid”. A supporting framework of factors to guide the NTP in relation to this objective will be set out in the Rules.

#### **Functions**

The primary function of the NTP will be to publish a draft and final version of the NTNDP each year. It will have the related functions of consulting on inputs to the draft NTNDP, such as the range of credible scenarios to be analysed. It will also be required to publish a database of assumptions, methods and input data used in developing the NTNDP.

The NTP will have the discretion to make submissions to TNSP consultations under the RIT-T, and to AER consultations in respect of revenue cap resets, where the transmission issues relate to capability across National Transmission Flow Paths.

The NTP will also have a number of advisory functions: to undertake reviews at the request of the MCE; and to advise the AEMC both in respect of the Last Resort Planning Power, and on general matters relating to the development of a national transmission grid. The NTP will also take over responsibility for the IRPC functions.

#### **Governance**

The AEMO will carry out the functions of the NTP. The AEMO board will make all decisions connected with the NTP functions. The NTP will be required to establish a NTP Advisory Committee to support it in undertaking the NTP functions. This is to ensure that the NTP has suitable visibility, focus and expertise within the broader scope of the AEMO functions.

## 2.1 NTP Objective

### Policy recommendation

The NTP should have the following overarching objective (**Law, Section 7AA**).

“The NTP objective is to contribute to the achievement of the national electricity objective through promoting the efficient, long term and co-ordinated development of the national transmission grid”.

### Reasoning for policy recommendation

There is considerable value in having an overarching objective for the national planning function defined in the Law, both to recognise formally the level of importance assigned to this function by ERIG and COAG, and market participants more generally, and to provide direction to the NTP in the exercise of its functions.

The objective should retain the primacy of the national electricity market objective (NEO) but specify the means by which the NTP will contribute to the NEO, i.e. by promoting the long term and nationally integrated development of the network. This recognises the fact that promoting efficient transmission development is not an end in itself but must be in the long term interests of consumers, who are ultimately concerned about delivered energy prices and security of supply, rather than transmission development per se. In developing the NTNDP, the NTP should therefore have regard to the most efficient combination of transmission, generation, distribution and non-network options that will deliver reliable energy supply at minimum efficient cost to consumers under a range of credible future scenarios.

This formulation of the objective is therefore consistent with the COAG Communiqué which noted that the NTNDP should focus broadly on power system development.

## 2.2 Considerations supporting the objective

### Policy recommendation

In undertaking any of its functions the NTP must have regard to the following considerations (**Law Section 7AB**):

- best practice in transmission planning of electricity networks;
- changes in technology that are relevant to the national transmission grid
- the availability, price and technical feasibility of different fuel sources for the generation of electricity;
- the Acts of any participating jurisdiction, or any instruments made or issued under or for the purposes of any such Act, that relate to the supply or use of

energy, including Acts or instruments that relate to the protection of the environment; and

- Alternatives to the augmentation of the national transmission grid, including reductions in the demand for electricity, the installation of local generating systems and the use of forms of energy other than electricity

### **Reasoning for policy recommendation**

The objective for the NTP is broadly constructed and it would therefore benefit from inclusion of a number of guiding considerations which the NTP must take into account in undertaking its functions. This will increase transparency and encourage consistency and predictability of NTP decision making.

## **2.3 Functions of the NTP**

### **2.3.1 Publication of the NTNDP**

#### **Policy recommendation**

The principal function of the NTP will be to produce and publish the NTNDP each year (**Law, Division [1] [1](1) (a)**).

#### **Reasoning for policy recommendation**

Publishing and developing the NTNDP will be the core function of the NTP and should therefore be set out in the Law. The proposed arrangements for how the NTNDP shall be prepared and consulted on are described in 2.4.3.

### **2.3.2 Publication of the NTNDP Data base**

#### **Policy recommendation**

The NTP should establish a database accessible to the public and containing all relevant non-confidential information and analyses used in creation of the NTNDP (**Rules, Clause 5.6A.4 (a) and (b)**).

#### **Reasoning for policy recommendation**

Submissions to the Issues Paper outlined broad support for the creation of a comprehensive database of assumptions and analyses. Such a database would add considerable value to the publication of the NTNDP; increasing transparency and rigour as well providing a source of information for market participants and TNSPs.

While the precise content of the database is a matter for the AEMO, it should at a minimum include a variety of benchmarked information such as fuel and capital costs for different generation technologies and transmission costs.

### **2.3.3 Inter-Regional Planning Committee Functions**

#### **Policy recommendation**

The NTP will become responsible for the functions currently performed by the Inter-Regional Planning Committee (IRPC).

#### **Reasoning for policy recommendation**

The COAG Communiqué required the new NTP arrangements to replace the current IRPC. The transfer of the IRPC functions to the NTP is discussed in chapter 6 of this Draft Report.

### **2.3.4 NTP submissions to Regulatory Investment Test consultations**

#### **Policy recommendation**

The NTP should have a discretionary role to make submissions to the RIT-T consultation process, but only where the RIT-T is being applied to an augmentation, or relevant substitute, which is likely to affect the transfer capability of national transmission flow paths (**Law, Division [1] [1] (1) (e) and (2)**).

#### **Reasoning for policy recommendation**

The COAG Communiqué requires that the NTNDP should outline the long term development of the power system but not replace localised transmission planning. Accountability for transmission investment and performance is to remain with TNSPs. The Communiqué further notes that the new planning arrangements should not lead to regulatory approval processes for investment which are slower than current arrangements.

A key implication of the COAG requirements is that there should be delineation in planning responsibility between the NTP and TNSPs. However, a significant number of submissions to the Issues Paper raised concerns with this view. They argued that as a consequence of the interconnectedness of the network even small investments in subsections of the network, ostensibly for reliability purposes, could have significant impacts in other areas of the network. In this context there is a risk that local planning undertaken in isolation would undermine the efficient and nationally integrated long term development of the network.

This suggests that the need for an appropriate level of interaction between the planning of the NTP and TNSPs. However, arrangements whereby the NTP involves itself extensively in the planning of TNSPs would be inconsistent with

principles of good governance because the NTP bears no responsibility for the consequential investment outcomes. Moreover, regardless of the extent of the NTP's involvement in local planning, TNSPs will inevitably undertake their own planning as they bear the ultimate financial and legal accountability for poor investment decisions. As a consequence, this may lead to inefficient duplication and blurring of accountabilities, in turn undermining the relationship between the NTP and TNSPs and causing potential delays in regulatory processes.

A balance must therefore be achieved between ensuring consistency between long term and short term planning while at the same time avoiding excessive duplication in planning responsibilities. The Commission recommends therefore to confer the NTP with a discretionary role in the RIT-T consultation process.

The NTP, as a highly informed participant, has the potential to add considerable value to the RIT-T process by providing independent views on whether an investment option or programme put forward by a TNSP is consistent with the efficient long term development of the network. This should strengthen incentives for TNSPs to consider the broader market benefits of the alternatives they put forward under the RIT-T assessments.

However, the NTP should not be 'at large' to involve itself in all RIT-T proposals by TNSPs, as this would not be an efficient use of its limited resources and may affect the timeliness of the regulatory approval process. The NTP should focus only on those transmission issues which impact materially on the transmission transfer capability of NTFPs, rather than involve itself in more specific, local transmission issues.

### **2.3.5 Submissions to AER revenue reset consultations**

#### **Policy recommendation**

The NTP should have a discretionary ability to make submissions to the AER revenue cap consultation process (**Law Division [1][1] (1) (e)**).

The AER may seek other forms of advice from the NTP, provided that any advice on which the AER relies upon or uses in revenue cap determinations is made public.

#### **Reasoning for policy recommendation**

The COAG Communiqué notes that the AER should refer to both the NTNDP and the advice of the NTP in revenue cap assessments.

The NTP's advisory role to the AER should be considered primarily in respect of its publication of a credible NTNDP, to which the AER may have regard to in its revenue cap determinations for TNSPs. However, consistent with its role in the RIT-T process, the NTP could also perform a valuable role in making public submissions to the revenue cap consultation process, in line with other market participants. Its independent and well informed views has the potential to provide valuable input into the AER's regulatory cap determinations.

It is also appropriate that the AER is able to seek further advice or input from the NTP provided any such interaction between the AER and the NTP is consistent with regulatory arrangements for transmission services in Chapter 6A of the Rules, which require that any advice on which the AER relies or has regard to in its determinations is published.

The public nature of any NTP advice will provide transparency regarding interactions between the AER and NTP, which avoids the perception that the NTP has special status in the revenue determination process. Assigning any kind of formal or substantive advisory role to the NTP in respect of revenue cap assessments would conflict with the accountability and governance framework proposed for the NTP.

### **2.3.6 Advice to the MCE and AEMC**

#### **Policy recommendation**

The MCE should have the ability to request the NTP to conduct reviews into matters relating to the development of a strategic and nationally co-ordinated transmission network (**Law, Division [1][1] (1) (d)**)

The Commission should also have the ability to request advice from the NTP on similar matters to assist the Commission in undertaking its functions(**Law, Division [1][1] (1) (c)**).

#### **Reasoning for policy recommendation**

As the body of expertise on transmission issues, it is appropriate that the MCE should be able to direct the NTP to undertake reviews on specific matters on, or relating to, the development of the national transmission grid. Likewise, the Commission itself should also be seek advice from NTP where it would assist the Commission in undertaking its functions.

### **2.3.7 Other Functions**

#### **Policy recommendation**

The NTP will undertake only those functions prescribed for it in either the Law or Rules.

#### **Reasoning for policy recommendation**

Some submissions to the Issues Paper noted the potential for the NTP to take on a range of technical and performance related functions, such as provision of Network Control Ancillary Services, technical monitoring of operational performance, coordination of maintenance scheduling, and publication and development of constraint equations. Consistent with the COAG's Communiqué, however, which

specified a strategic transmission planning focus for the NTP, functions of a more short-term operational nature may be more appropriately situated in other areas of AEMO. The only exception to this are the IRPC functions which COAG specified should be transferred to the NTP. These are discussed in more detail in Chapter 6.

It is also important to avoid assigning functions to the NTP that may conflict with COAG's requirement that accountability for performance and investment remains with TNSPs, particularly those functions that furnish the NTP with inappropriate regulatory responsibilities. In this regard some of the functions noted above are likely to have a direct bearing on TNSP's performance and investment obligations.

As discussed in more detail in Chapter 7, other components of the regulatory arrangements, such as the incentive arrangements in Chapter 6A of the Rules, are better placed to ensure that the TNSPs perform their operational functions efficiently and effectively. The NTP's focus should therefore be on transmission planning and the publication of relevant planning related information.

That being said, the NTP functions are specified in the Rules, and therefore, where additional functions may be considered over time to be relevant for the NTP, these can be assessed through the normal rule change process.

## **2.4 Governance and accountability arrangements**

This section sets out recommendations and supporting reasoning for the appropriate governance arrangements for the NTP in the context set out by COAG, while at the same time being consistent with the application of effective corporate governance and accountability principles. This is a key Review criterion for the Commission.

### **2.4.1 Establishing the NTP**

#### **Policy recommendation**

The AEMO will perform the proposed functions of the NTP ((**Law, Division [1][1 (1)**)).

#### **Reasoning for policy recommendation**

The MCE has recently clarified two detailed points relevant to designing the governance of the NTP.<sup>9</sup> First, that 'to ensure effective lines of accountability, the AEMO Board should be directly responsible for all functions to be carried out by the organisation'. Second, that the AEMO Board will undertake the functions of VENCORP among its other functions.

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<sup>9</sup> MCE, Australian Energy Market Operator Implementation Plan Synopsis, 12 March 2008.

The AEMO Board will therefore undertake the NTP functions. The AEMO Board will also have responsibility for establishing arrangements for Market Operations Advisory Panels.

There are likely to be significant benefits from a NTP located within AEMO, such as better resourcing, having a wider energy market focus including gas and electricity, and the opportunity for better integration of power system and transmission system modelling. The co-optimisation of the two from a long-term perspective should provide more robust investment signals and credible information to market participants as well as TNSPs.

The governance model proposed by the MCE for the AEMO provides a number of checks and balances to ensure that the NTP function, consistent with other functions performed by AEMO, will be objective and rigorous. First, the AEMO board will contain a mix of industry and independent representation, who will be appointed by the MCE on the recommendations of a selection panel with two industry and two MCE representatives, and an independent chair able to make the casting vote. This reduces the potential for the board appointed by the panel to be perceived as representing particular sectoral interests.

Second, the AEMO will also be subject to the Corporations Act 2001 requirements and ASX Corporate Governance Principles and Recommendations where these are relevant. These require that mechanisms are put in place to ensure, among other things: appropriate auditing of functions and performance (including its NTP functions); specification and disclosure of AEMO board member roles; and that board members are appropriately skilled, independent and accountable for their performance.

Appropriate scrutiny of internal processes through auditing measures will be an important mechanism to ensure that the NTP is held accountable for undertaking its functions efficiently and to a high standard.

### **Focus and accountability of the national planning function**

While the Commission acknowledges the strong accountability and governance framework proposed for the AEMO, the Commission emphasises that the NTP is a priority COAG initiative, designed to facilitate the efficient future development of the national transmission network. It is being established at a time when the tightening energy supply-demand balance and prospective climate change policies will bring considerable uncertainty and change to the transmission network and power system more generally.

Moreover, the AEMO will be responsible for a wide range of functions including electricity and gas market operation, the VENCORP functions, management of prudential risks and the security and reliability of supply. The AEMO board will consequently be required to manage a complex interplay of competing priorities and functions, with significant impacts on market participants and end users. In this complex and dynamic environment it will be important to ensure that the transmission planning function has clear focus, visibility and accountability and access to the relevant technical experience and expertise.

To achieve these outcomes the following key enhancements to the governance arrangements are proposed.

First, there should be a requirement for the AEMO to establish an expert Advisory Committee. This requirement should be set out in the Law with the detail of the Advisory Committee's role in the Rules. This will bring visibility and focus to the national planning function and ensure the NTNDP has diverse and balanced expert input.

Second, the AEMO should be required to consult on the budget and work plan of the NTP. Maintaining transparency to stakeholders over how the NTP function is being prioritised, resourced and implemented will enhance the credibility of the NTNDP as an analytically robust and well resourced document.

Third, the NTP should be required to undertake an open and inclusive consultation process for developing the NTNDP. Wide stakeholder input into the NTNDP will increase the confidence of stakeholders in its balance and credibility.

Each of the proposed accountability measures and supporting elements are outlined in more detail below.

## **2.4.2 Establishing an Advisory Committee**

### **Policy recommendation**

The AEMO should be required to establish a NTP Advisory Committee (**Law, Division [2][1] (1)**).

The Law should make provision for the Commission to review the need for an Advisory Committee after 5 years of operation (**Law, Division [2][4]**).

The key roles of the NTP Advisory Committee will be to oversee the development of the NTNDP and to assist the AEMO in the exercise of its NTP functions (**Law, Division [2][1] (2)**). It will be advisory only and not executive.

The AEMO may direct the Advisory Committee to conduct a review into or provide advice on, any matter relating to the development of the national transmission grid (**Law, Division [1][1] (1) (g)**).

The NTP Advisory Committee will have regard to the NTP objective and take into account the same list of considerations as the NTP (**Law, Division [2][2]**).

The NTP should be required to have regard to the advice of the Advisory Committee in relation to any of its functions (**Law, Division [1][2] (b)**).

The NTP Advisory Committee should comprise between three and five members, including a chair person, with an appropriately balanced and diverse range of expertise, reflecting the range of skills needed to advise the NTP in undertaking its functions (**Law, Division [2][3] (1) and (2)**).

The chair person should be independent of regulatory or commercial interests in the market but may be a member of the AEMO Board (**Law, Division [2][3] (3)**).

No more than one AEMO employee can be selected as a member of the Advisory Committee (**Law, Division [2][3] (4)**).

### **Reasoning for policy recommendation**

The requirement in the Law for the AEMO to establish an Advisory Committee will bring a singularity of focus and high visibility to the national planning role within AEMO, consistent with the high policy priority assigned to such a role by COAG.

Consistent with the accountability framework proposed for the AEMO by the MCE, the role of the Advisory Committee would be supportive and advisory only, not executive. However, the AEMO will be required to take into account the advice of the Advisory Committee in undertaking its functions. This will have the effect of creating transparency and recognises the input of a balanced expert Committee, thus enhancing the rigour and credibility of the NTNDP.

The AEMO board, in its capacity as the NTP, would make final decisions over the content of the NTNDP, and what public submissions to make to the AER or TNSP consultation processes. It is also appropriate that the AEMO is able to direct the Advisory Committee to conduct reviews on, and provide advice, on any matter that may have a bearing on the strategic long term development of the network.

In appointing the Advisory Committee the AEMO board would be required to draw from an appropriately wide and diverse range of expertise for advice and oversight of the development of NTNDP. This will avoid the perception that any one sector is over-represented on the Committee.

It is also proposed that the arrangement for an Advisory Committee be reviewed after 5 years operation, to assess whether it continues to be necessary and appropriate as a legal requirement.

### **2.4.3 Consultation on NTP budget and work plan**

#### **Policy recommendation**

The Rules should require the AEMO board to set out a separate budget and work plan for NTP function, and be required to consult on these with market participants (**Rules, Schedule 3 [1] clause 5.6A.1(b)(3)**).

#### **Reasoning for policy recommendation**

Requiring the AEMO board to set out separately the budget allocation and work plan of the NTP, and to consult on these with market participants, would create transparency and ensure an appropriate level of resources are committed to the

planning function. The proposed arrangements should therefore significantly enhance the credibility of the NTNDP.

#### **2.4.4 Consultation on NTNDP**

##### **Policy recommendation**

The NTP should be required to consult once a year on both the inputs to the NTNDP comprised of the scenarios and assumptions of the NTNDP and its output, the draft NTNDP (**Rules, Schedule 1, Clause 5.6A.1**).

Consultation on inputs to the draft NTNDP and on the output of previous year's final NTNDP will occur in January of each year. Consultation on the output of the draft NTNDP will occur in September each year (see Box 2.1).

In developing the draft and final NTNDP the NTP should be required to take into account submissions and explain why issues raised in submissions have or have not been taken into account (**Rules, Schedule 1, Clause 5.6A.2 (e), (h)(9) and (h)(10)**).

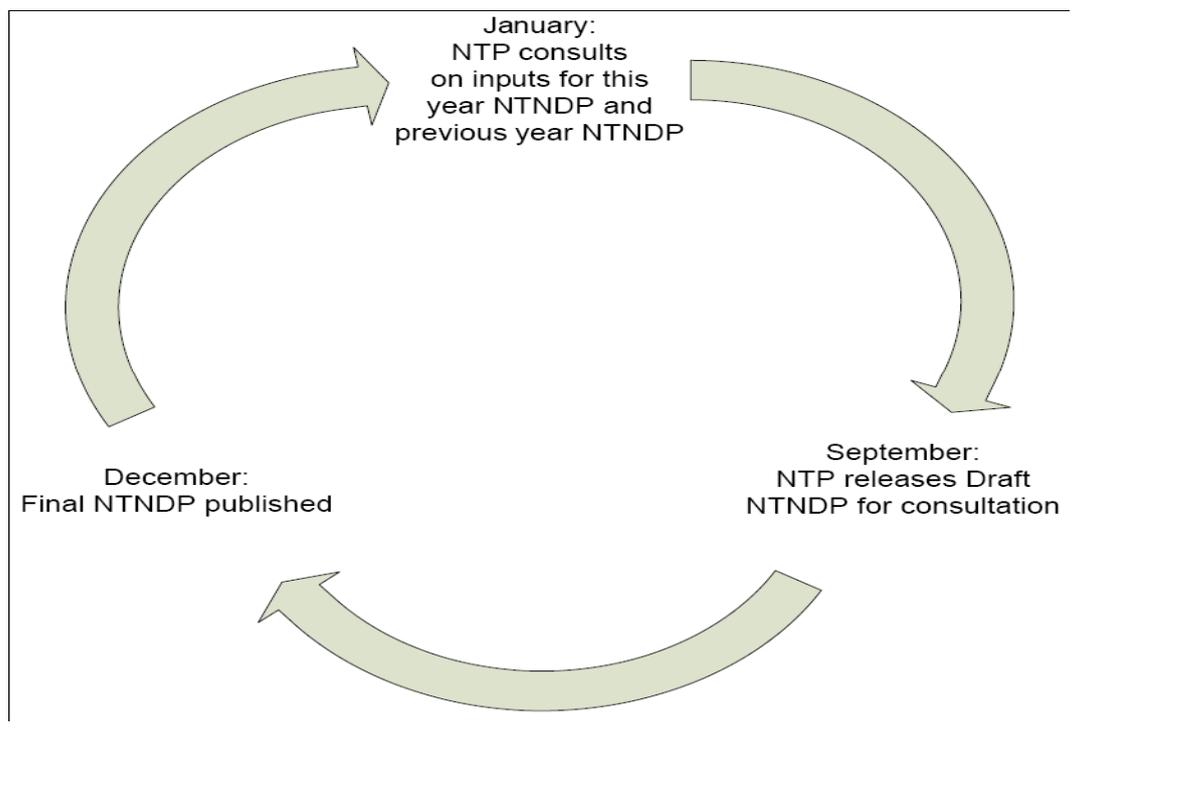
##### **Reasoning for policy recommendation**

Consistent with requirements expressed in the COAG Communiqué, the development of the NTNDP should benefit from wide ranging and inclusive consultation. This is perhaps the most important mechanism for ensuring the NTNDP is objective, transparent and rigorous, and that it supports the needs of market participants. The NTP will be required to have regard to participant submissions and explain how it has taken these into account in developing the NTNDP. This creates transparency and recognises the value of stakeholder input, enhancing the level of confidence stakeholders will have in the NTNDP.

While it is acknowledged that the specific requirements proposed for consultation lead to relatively tight time frames for development of the NTNDP, particularly in the first instance of such a plan, on balance the Commission considered that consultation on both inputs and outputs of the plan was appropriate for ensuring transparency and sufficient opportunity for stakeholder input. It was also considered that timing will become more streamlined as the NTNDP evolves and the level of baseline information is built up over time.

Box 2.1 sets out the annual process of consultation and preparation for the NTNDP.

### Box 2.1: Annual Process for the Preparation of the NTNDP



## 2.5 Information powers

### Policy recommendation

The information gathering powers of AEMO should encompass the ability to request any information it reasonably requires to undertake its functions as the NTP, but have regard to the costs of providing that information (**Law, Division [3](1) and (2)**).

Additionally, to promote efficiency in how this information is gathered, the NTP will provide a 'planning information instrument' to each TNSP on an annual basis to collect information it needs for development of the NTNDP (**Law, Division [3] (3)**).

In relation to information needed from market participants the expected AEMO powers to obtain information from market participants in relation to market operation and development of the Statement of Opportunities will be sufficient for this purpose.

### Reasoning for Policy recommendation

The NTNDP needs to be sufficiently detailed and comprehensive if it is ultimately to be of value to market participants and guide investment decisions. It is important,

therefore, that the NTP is able to access the information it reasonably requires from TNSPs, and market participants, in a timely fashion to meet its objectives, provided the cost of providing such information is not excessive and confidentiality requirements are taken into account.

The NTP should be able to use and access relevant information from AEMO provided it is relevant to NTP functions, and is subject to the normal confidentiality requirements that relate to such information.

It is not intended for any additional information powers to be prescribed in the Rules for collecting information from market participants. However, the consultation process will provide the NTP with a good opportunity to collect valuable planning and investment information from market participants where they volunteer to do so. The normal confidentiality provisions relating to other AEMO functions should also apply in respect of any such information. In this regard the NTP should also be able to implement informal mechanisms for streamlining collection of information from market participants where sufficient support exists among market participants.

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### **3 National Transmission Network Development Plan**

This chapter sets out the Commission’s proposals and reasoning for what the Rules should prescribe in relation to the content of the NTNDP (See Appendix C(ii)). The key policy positions developed in this Chapter represent a balance between achieving a rigorous, detailed and credible NTNDP while avoiding excessive duplication and undermining TNSP accountability for investment.

#### **Summary of proposed recommendations**

##### **Scope of transmission assets to be included in the NTNDP**

The scope of the NTNDP should be transmission capability across NTFPs and include all network limitations, and possible options for relieving them, which are part of, or materially affect, the transfer capability across NTFPs.

##### **Relationship between NTP and TNSP planning**

To strengthen the link between the NTNDP and the short term planning of TNSPs a reciprocal obligation will be inserted in the Rules: the NTP in developing the NTNDP will be required to have regard to the short term planning and investment decisions of TNSPs; conversely, TNSPs will be required to have regard to the NTNDP in their annual planning reviews and Annual Planning Reports.

##### **Scenarios and transmission development strategies**

The NTNDP should present a broad and deep analysis of different future supply and demand scenarios for NTFPs, taking account of various policy, technology and economic assumptions and looking out at least 20 years into the future.

The NTP will also be required to outline “transmission development strategies” for NTFPs under each scenario, which must include consideration of a range of network and non-network alternatives.

##### **Other information to be included in the NTNDP**

The Commission proposes that the NTNDP reports on the existing and future dynamics of network capability and congestion on NTFPs. The NTNDP will also contain a consolidated summary of Annual Planning Reports (APRs) from each TNSP, with commentary on key variations between the NTNDP and previous APRs.

## 3.2 Scope of NTNDP

### Policy recommendation

The NTNDP should focus on the NTFPs, and those transmission elements (and relevant technical substitutes) that are likely to affect the transfer capability on NTFPs ( **Rules, Schedule 1, Clause 5.6A.2 (h) (2)**).

### Reasoning for policy recommendations

An important issue in defining the appropriate content for the NTNDP is the scope of transmission issues it should focus on.

The Commission proposes that the NTNDP focus on transmission capability across NTFPs, as currently defined in the Rules<sup>10</sup>, and include all constraints or network limitations, and possible options for relieving them, which are part of or materially affect the transfer capability across NTFPs. This approach recognises the interconnectedness of the network, while at the same time appropriately limits the involvement of the NTP to only those local planning issues that are likely to have a substantive impact on major energy path ways.

In submissions to the Issues Paper some participants, such as Grid Australia and Macquarie Generation, commented that the NTNDP should focus only on major existing and potential transmission corridors defined in some way as having “national significance”, although precisely how this would be defined was unclear. Alternatively, other submissions, such as VENCORP, ERAA and NGF, considered the NTNDP should effectively reproduce the planning of TNSPs to provide a comprehensive NEM wide perspective on network development.

The proposed scope of the NTNDP represents an appropriate balance between these two perspectives, for the following key reasons.

Firstly, an NTNDP that focuses on the transfer capability of key energy path ways in the NEM is likely to capture transmission issues which will affect the efficient evolution of the grid, while at the same time avoiding excessive intrusion into local planning issues. This focus is therefore consistent with the proposed role and function for the NTNDP envisaged by COAG.

Secondly, the proposed scope for the NTNDP avoids categorisation of flow paths in terms of specific transmission elements or assets, and therefore recognises the interrelated nature of the transmission network. That is, constraints on major transmission elements are often caused by limitations on secondary elements on the network. If the NTNDP was restricted in its scope to major primary transmission elements only, it would be likely to exclude significant causes of network constraints and remove from visibility potential investments with substantive market benefits.

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<sup>10</sup> The Rules define NTFPs as that portion of a transmission network or transmission networks used to transport significant amounts of electricity between major generation and load centres

Consequently, the NTNDP would be unable to meet its primary objective of providing an informed perspective on the efficient long term evolution of network.

### **Interpretation of NTFPs**

Interpretations regarding what constitutes a NTFP may vary over time and according to the assumptions inherent in different future scenarios. It is important therefore that the preparation of the NTNDP includes an annual consultative process for obtaining stakeholder views on determining and amending NTFPs. The proposed consultation requirements for the NTNDP (see Chapter 2) include an obligation for the NTP to take into account participant submissions made in respect of the NTNDP.

It should not be assumed however that future interpretations of NTFPs will necessarily be the same as NEMMCO's current interpretation.

## **3.3 Scenarios in the NTNDP**

### **Policy recommendation**

The NTNDP should present a broad and deep analysis of different future supply and demand scenarios for NTFPs, taking account of various policy, technology and economic assumptions and looking out at least 20 years into the future (**Rules, Schedule 1, Clause 5.6A.2 (h) (3)**).

### **Reasoning for policy recommendations**

There was strong support in submissions to the Issues Paper that the NTNDP should present a broad and deep analysis of different future supply and demand scenarios taking into account various policy prescriptions (for example, climate change policy), technological innovations and economic assumptions with a planning horizon at least 20 years into the future. This is generally viewed as a significant gap in the current arrangements.

## **3.4 Transmission development strategies**

### **Policy recommendation**

The NTNDP should be required to outline development strategies for major flow paths under each scenario, and include consideration of a range of network and non-network alternatives (**Rules, Schedule 1, Clause 5.6A.3**).

The development strategies will also include a high level cost-benefit assessment of options, or combinations of options, proposed for meeting transmission capability needs under a variety of supply and demand scenarios (**Rules, Schedule 1, Clause 5.6A.3 (d)**).

## Reasoning for policy recommendations

One of the key implications of COAG's requirement for a strategic NTNDP is that NTP will need to develop views about the future development of the network.

In its submission to the Issues paper NEMMCO suggested that the NTP should have the capacity to propose its own "conceptual" augmentation proposals for addressing future network limitations on the network. It noted that currently under ANTS such conceptual proposals were relatively limited and relied on information provided by TNSPs.

A greater role for the NTP in developing and proposing its own conceptual augmentations would add significant value over existing arrangements. The approach envisaged by the Commission however is more forward looking and strategic compared with current approaches to devising conceptual augmentations. In its report to the Energy Reform Implementation Group (ERIG)<sup>11</sup> CRA International commented that the current approach to transmission investment under the regulatory test is largely incremental, with a focus on discrete investments to connect loads and generators to the network or address reliability standards as demand grows over time. There is little explicit incentive under the current regulatory framework to consider how such incremental discrete investments might be better integrated to address long term capability issues, or how they might be modified or configured to maximise potential benefits to the market over the long term. CRA International further noted that a move to a more strategic national planning framework would therefore require greater emphasis on "development programmes rather than projects"<sup>12</sup>. It is this gap in current regulatory arrangements that the NTNDP is required to fill.

The NTP should therefore be required to develop, and reflect in the NTNDP, transmission development strategies for major flow paths under each scenario. Development strategies should include consideration of a range of network and non-network alternatives, future generator locational decisions, and have close regard to the NTP objective and its supporting considerations, as outlined in Section 2.2. It should also take into account the most recent APRs and revenue determination for each TNSP, and the most recent Statement of Opportunities (SOO). To assist this, the Commission proposes to bring forward the annual publication date of the SOO from 31 October to 30 June.

Transmission development strategies should also include a high level assessment of their costs and benefits, which is essential in order for the NTP to come to a view as to what constitutes an efficient development strategy under a particular scenario.

However, any cost-benefit analysis must necessarily be at a high level recognising the uncertainties of investment proposals some distance into future. The detailed costing and specific identification of "preferred" solutions should be left to TNSPs as the lead time for investment approaches.

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<sup>11</sup> Charles River Associates International. *A Report to ERIG on Transmission in the National Electricity Market*, December 2006

<sup>12</sup> Ibid p 29

## **Development strategies and TNSP investment**

In light of the fact that the NTNDP is an information document only, it is important to consider how the longer term transmission development strategies contained within it might influence the actual investment decisions of TNSPs.

As noted by the NGF in its submission to the Issues Paper, the long term transmission development strategies produced by the NTP would start out as being uncertain given their long forecast horizon. However, as the lead time for addressing network limitations approaches and the certainty of information improves, such development strategies should become more detailed and definitive. Over time, therefore, with iterative consideration each year in revised versions of the NTNDP and the benefit of input from TNSPs and other stakeholders through the consultation processes, transmission development strategies detailed in the NTNDP should start to more directly inform the APRs and investment decisions of TNSPs.

To the extent TNSP investment proposals are consistent with the transmission development strategies outlined in the NTNDP, this should streamline the RIT and TNSP revenue determination processes. That is, by the time investment proposals and programmes initially identified by the NTP in the NTNDP find their way into the APRs of TNSPs they are likely to have been identified in a number of successive NTNDPs and will have benefited from substantial refinement and consultation.

### **3.5 Other information contained in the NTNDP**

#### **Policy recommendation**

The NTNDP should report on the existing and future dynamics of network capability and congestion on NTFPs and any other information of relevance to the strategic long term development of the network (**Rules, Schedule 1, Clause 5.6A.2 (h) (7)**).

The NTNDP should also contain a consolidated summary of APRs from each TNSP, with an explanation of key deviations between the NTNDP and previous APRs (**Rules, Schedule 1, Clause 5.6A.2 (h) (8)**).

#### **Reasoning for policy recommendations**

COAG stipulated that the NTNDP should replace the current ANTS, with the implication that an NTNDP containing less information than ANTS was not being contemplated. This would be unlikely to meet requirements for an "enhanced planning process" under the new arrangements.

It is therefore proposed that the NTNDP, like the ANTS, reports on the existing and future dynamics of network capability and congestion on major NTFPs. This will require the NTP to develop a suitable measure for network transmission capability for NTFPs in the NEM. The Commission also expects the NTP to incorporate any

recommendations made in relation to the collection and reporting of congestion related information in the Congestion Management Review<sup>13</sup>

Further, the NTNDP should not be precluded from presenting other similar types of information such as that related to generator mispricing, which may be of value to participants in assessing current and future network capability.

The NTNDP should also to contain a consolidated summary of APRs from each TNSP with supporting reasons for any key variations between the NTNDP and APRs. This will allow participants, as well as the AER, to examine linkages and the level of consistency between TNSP planning and the NTNDP.

### **3.6 Relationship between NTP and TNSP planning**

#### **Policy Recommendation**

The NTP in developing a long term NTNDP should have regard to the short term planning and investment decisions of TNSPs (**Rules, Schedule 1, Clause 5.6A.2 (d) (4)**).

Conversely, TNSPs in developing their short term investment planning should have regard to the NTNDP (**Rules, Schedule 2, Clause 5.6.2 (b) and 5.6.2A(b)(5)**).

#### **Reasoning for Policy Recommendations**

A key implication of the COAG Communiqué is that the NTP should predominantly focus on long term and strategic network development issues and TNSPs on localised or regional transmission planning issues.

However, as discussed in chapter 2, a sharp separation in planning responsibilities could potentially undermine the nationally integrated and efficient development of the grid. The NTP and TNSP planning should complement and inform each other. One way the Commission has proposed to achieve this outcome was through the proposed role for the NTP as an interested party who can make submissions to the RIT-T.

A second key measure proposed for achieving such consistency is through creating a reciprocal obligation in the Rules. The obligation would require the NTP and TNSPs to “have regard” to the planning of the other in developing their own plans. This is appropriate because the NTP should take into account the actual investment and investment intentions of TNSPs. Conversely, if TNSPs ignored the broader strategic implications of their investment decision making then this will undermine the NTP’s objective for promoting the efficient long term development of the network.

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<sup>13</sup> AEMC, *Congestion Management Review, Exposure Draft*, March 2008

The creation of a reciprocal obligation should strengthen incentives for the NTP and the TNSPs to ensure overall transmission planning of the grid is internally consistent and nationally integrated. It is also expected that this will encourage appropriate interaction and dialogue between TNSPs and the NTP in respect of their network planning issues.

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## 4 Regulatory Investment Test for Transmission

This chapter sets out the Commission's draft recommendations for a new project assessment and consultation process for transmission to replace the current Regulatory Test. The new process is proposed to be called the Regulatory Investment Test for Transmission (RIT-T). The chapter describes the component parts of the RIT-T in detail, with references to supporting draft legal text, and sets out the Commission's supporting reasoning. It also highlights a small number of issues where stakeholder views would be particularly welcomed.

### **Summary of recommendations**

#### **Scope of the RIT-T**

The RIT-T will be undertaken by a TNSP when a transmission network planning issue exists where the most expensive economically credible option is estimated to cost more than \$5m; the planning issue is not urgent or unforeseen; and the planning issue is not solely the provision of connection services nor negotiated transmission services or like-for-like replacement.

#### **Decision making Rule**

The purpose of the RIT-T will be to identify the preferred option which maximises the present value of net economic benefits (or minimise the present value of net economic costs) subject to meeting deterministic reliability standards (where they apply).

#### **Substance and process of the RIT-T**

The RIT-T will involve:

- A quantified assessment of costs and benefits across a range of credible options;
- 12-week consultation on the range of credible options to assess and the classes of costs and benefits (from a standardised list) that are materially relevant;
- Publication of a draft report on the assessment of costs and benefits for consultation for 4 weeks;
- An ability to raise disputes, which will then be assessed by the AER within 40 days; and
- Application of the same process irrespective of whether a transmission issue is motivated by reliability or by the potential to deliver market benefits, or both.

Appendix D contains the proposed new Rule and Rule changes necessary to implement the RIT-T.

## **4.1 Current Regulatory Test to continue for DNSPs**

The Commission would like to clarify that the proposed RIT-T will only apply to TNSPs and not DNSPs. The COAG Communiqué states that the new test “will allow proposed transmission projects to be assessed against meeting reliability standards and their ability to maximise benefits to the national market”. The Commission has been developing a proposed test which is fit-for-purpose for transmission.

The Regulatory Investment Test for Distribution will be the current regulatory test. The MCE is currently finalising its review on distribution and retail regulation and the appropriate project assessment framework for distribution projects should be considered through the process of developing the new Rules for distribution, rather than as part of this Review.

There is a possibility that an issue on the transmission network is addressed through investment in the distribution network and vice versa. The network development framework in Chapter 5 of the Rules requires the TNSPs to conduct a joint planning processes with relevant DNSPs. This joint planning process ensures that the capacity of the transmission network is sufficient for the needs of the distribution network and also helps to ensure that the most efficient combination of TNSPs and DNSPs augmentations are implemented.

Under the new arrangements, network augmentations necessary to meet deterministic planning standards applied to distribution networks will continue to be assessed under the current regulatory test, while proposed projects addressing identified needs on the transmission network will be subject to the new RIT-T. The Commission does not consider that having two separate project assessment processes would prevent joint planning process from continuing, but seeks views from market participants on whether having two separate process would create complications.

## **4.2 Amalgamating Reliability and Market Benefits**

### **Policy recommendation**

The MCE has directed the Commission to establish a new project assessment and consultation process which amalgamates the reliability and market benefits limbs of the current Regulatory Test, in order to allow proposed transmission projects to be assessed against both local reliability standards as well as their ability to maximise benefits to the national markets.

In the NTP Issues Paper, the Commission discussed two possible approaches to amalgamating the current limbs. Firstly, a full cost benefit approach (‘option 1’) where all planning is based on a full cost-benefit framework, with the benefits of meeting mandatory obligations explicitly valued in the analysis. The second approach would maintain the existing least cost approach to projects intended solely to meet mandatory obligations, but would allow for the incorporation of additional benefits where relevant (‘option 3’).

The Commission's recommendation is for the adoption of an option 3 approach. This proposal has been widely supported by market participants. Under the proposed RIT-T, all prospective investments above a suitable cost threshold, are to be assessed under a cost-benefit framework. The purpose is to identify options which maximise the present value of net economic benefits (or minimise the present value of net economic costs) subject to meeting deterministic reliability standards (where they apply).

This approach will be consistent with either a deterministic or probabilistic approach to determining reliability standards. Hence the proposed RIT-T can accommodate a nationally consistent framework for transmission reliability standards, in whatever form that takes.

The result will be that TNSPs would be required to investigate whether an enhancement to a reliability project or a different project that met the same reliability standard, would provide additional market benefits that justified a higher cost, and select such a project if one is found. Where no options have market benefits, and hence the project is solely driven by the need to meet reliability standards, the RIT-T is effectively a 'least cost' test analogous to the test applied under the 'reliability limb' of the current Regulatory Test.

Where deterministic standards exist, it is proposed that only the incremental reliability benefits of exceeding the standards need to be quantified for the purpose of the RIT-T. This will prevent a TNSP from undertaking unnecessary analysis.

To assist in the application of the new RIT-T, it is recommended that a consistent methodology for quantifying reliability benefits across the NEM is developed by the AER through its normal consultation procedures as part of its development of guidelines for the new RIT-T.

Under the proposed RIT-T, mandatory reliability obligations would be met by the option that had the highest positive net present value (NPV) or lowest negative NPV. Where there is no underlying mandatory reliability obligation (an issue solely motivated by the delivery of market benefits) then the test would be met by the option which had the highest positive NPV.

### **Reasoning behind policy recommendation**

Options 1 and 3 are very similar in principle – both require cost-benefit analysis and assess the economic validity of projects in net present value terms. The key difference between the two possible is that option 1 would attempt to quantify all reliability benefits, but option 3 does not.

The Commission agrees with the point raised in the submissions that requiring TNSPs to value all reliability benefits for all projects would in some cases, increase the cost and complexity of the analysis required for the RIT-T without commensurate value to the analysis. This could result in a lengthening in the planning process for investment driven by reliability concerns. Therefore an option 1 approach is rejected in favour of option 3 approach. The Commission has proposed that only the incremental reliability benefits of exceeding the standards need to be quantified.

Any extra provisions in the level of reliability is an additional market benefit and should be measured to achieve the intention of the COAG Communiqué.

Another argument raised against option 1 by Grid Australia is that an approach where all reliability benefits are required to be quantified would be inconsistent with mandatory reliability standards. This is because the level of reliability delivered will be an output of the analysis, and may not be consistent with the level of reliability required to meet the jurisdiction standard. The proposed decision rule for the RIT-T, under which the most economic option required to meet deterministic reliability standards, can have a negative NPV addresses Grid Australia's concern.

The presence of deterministic planning standards reduces the scope of options to be considered so as to exclude any options that result in non-compliance with the relevant standards. Subject to this restriction, the same cost-benefit test is applied across the range of relevant options. This helps to achieve the intention of the COAG Communiqué of a single test for all projects.

The NTP Issues Paper also sought comments on whether this decision making rule was robust enough, and whether there was a need to introduce more specific decision making criteria such as maximising the ratio of net benefits to costs. There was minimal support from submissions for more specific decision making criteria and the Commission has not seen any evidence to suggest that the current basis for the decision rule is a material problem. Therefore the proposed RIT-T maintains the existing basis for the selection of the most economic project.

### **4.3 Inclusion of National Market Benefits**

#### **Policy recommendation**

As part of developing the new RIT-T process the Commission has also been asked to review whether the current definition of market benefits is sufficiently comprehensive to capture all national benefits rather than those focused within a region of a TNSP.

The Commission considers that the current definition of market benefits sufficiently allows for all national benefits to be assessed but recommends that the Rules provide greater prescription on the framework of the RIT-T by mandating a list of classes of market benefits and costs that a TNSP must consider in undertaking the project assessment stage. This will remove any perception that a TNSP might be cherry-picking selected market benefits and costs to include in the assessment.

The identification of national benefits will also be aided through the information contained in the NTNDP, and through requiring TNSPs to hold a prior consultation on prospective projects before any assessment.

#### **Reasoning for policy recommendation**

The current Regulatory Test defines market benefits as “the total benefits of an option to all those who produce, distribute, and consume electricity in the NEM”.

This definition requires the TNSP to take a NEM wide view in calculating the impacts of a project and hence is sufficiently broad to capture national benefits. Therefore it is considered that the concern of COAG relates to the custom and practice of how national benefits are accounted for by TNSPs in the project assessment process, rather than any deficiencies in the definition itself.

There seems to be a propensity for the TNSPs to focus only on the impact of augmentations within a particular jurisdiction. It is intended that the new RIT-T, by amalgamating reliability and market benefits, will require TNSPs to broaden the scope of possible market benefits they consider in examining project options.

It is proposed that the Rules provide greater prescription on the dimensions of the RIT-T by mandating a list of market benefits and costs that a TNSP must consider in undertaking the project assessment stage of the RIT-T. This addresses a perception that under the current regime there is the potential for cherry-picking of classes of benefit to be quantified.

Also, to improve the transparency of project assessments, TNSPs will be required to provide information on any classes of market benefits which occur outside the TNSP's region. In regard to this, the Commission has accepted the points made in Grid Australia submission on the NTP Public Forum Discussion Paper that requiring the TNSPs to quantify separately the value of any market benefits which occur outside its' region will add complexity to the analysis and will require subjective, uncertain allocation of impacts across regions.

The identification of national benefits will also be aided through the information contained in the NTNDP, and through requiring TNSPs to hold a prior consultation on prospective projects before any assessment. Market participants, including the NTP, will be able to make submissions on possible alternatives and possible market benefits associated with a prospective investment. In addition, the AER will continue to be tasked with providing guidance and methodologies on how to estimate market benefits.

These proposed arrangements will improve the practice of assessing market benefits associated with proposed projects and will provide transparency to stakeholders.

#### **4.4 Framework for the Regulatory Investment Test**

The current Regulatory Test has two distinct planning and consultation processes ("limbs") for selecting the most efficient transmission augmentation option. The COAG Communiqué required the Commission to advise on amalgamating these two regulatory test criteria for reliability and market benefits projects.

However, the current processes for mandatory reliability and discretionary market benefit investments differ not only in the decision making criteria but also in the required consultation and assessment processes, and the grounds for dispute. As noted in submissions, reliability investments have a shorter and simpler process to follow compared with market benefits investments. Therefore the Commission's

task has been to develop a new test which is capable of being applied consistently across all prospective investments, irrespective of whether the primary motivation for the investment is to meet reliability standards or not.

In this regard, the Commission has developed a proposed revised framework for the application of the new RIT-T. The new framework is based on elements of the current arrangements and addresses:

- What should be the scope of projects subject to the new process?
- When and on what basis should consultation occur?
- What costs and benefits should be recognised and quantified?
- How should the range of options for consideration be identified? and
- What should be the appropriate dispute resolution process?

The remaining sections of the chapter discusses the appropriate framework for the new RIT -T.

## **4.5 Scope of Projects**

### **Policy recommendations**

The Commission recommends that:

- The cost threshold for projects subject to the RIT-T should increase from \$1m to \$5m;
- That the threshold should be applied to the most expensive option which is both technically and economically feasible;
- That urgent and unforeseen investments are exempt from undertaking the RIT-T;
- Network reconfigurations which augment the network or affect service levels and cost more than \$5m are also subject to the RIT-T; and
- Projects which combine augmentation and replacement expenditure are also included if the augmentation component is more than \$5m.

It is also recommended that the exemption for funded augmentations, “like-for-like” replacement expenditure, and connection assets from having to undertake an RIT is retained.

For projects that are outside the scope of the RIT-T, the Commission recommends placing an obligation on the TNSPs to ensure the such projects are planned on the basis of minimising costs (exempt for funded augmentations) and TNSPs are required to disclose information on urgent and unforeseen projects and replacement expenditure projects costing more than \$5m.

## **Reasoning for policy recommendations**

### **Cost thresholds**

There should be a dollar threshold below which the RIT-T is not undertaken. This is a feature of the current Regulatory Test, and would appear to have merit as a means of ensuring that the administrative burden of the test remains proportionate.

Currently all augmentation projects estimated to cost more than \$1m are subject to the Regulatory Test. The rationale for exempting small scale projects is that there is less profit potential and hence less incentive on the TNSP to favour uneconomic solutions. Furthermore such projects are subject to economic efficiency regulation under Chapter 6A of the Rules.

The Commission recognises the potential merit of a increased threshold for application of the RIT-T, given the removal of the 'reliability limb', and the resultant significant increase in the proportion of projects that would require benefits to be quantified as part of the project assessment process.

Also it is sensible to apply the threshold to the most expensive option which is both technically and economically feasible, instead of the preferred solution. TNSPs should be encourage to undertake project specification consultations earlier in the planning process and linking the threshold to the TNSPs preferred solution may unnecessary delay the project assessment process. By including the terms "technically and economically" feasible addressed the point raised by Grid Australia at the Public Forum that there is always likely to be a high cost option.

The proposed \$5m threshold represents the Commission's current position. However it intends to do further analysis on the appropriate threshold and would welcome submissions on this specific issue.

### **Types of investment – augmentation, replacement and reconfiguration**

It is also considered that the scope of projects subject to the RIT-T should be expanded to include network reconfigurations, and also situations where there is scope for replacement and augmentation investment to be combined together. This addresses the concern about a possible lack of sufficient incentives for such investment because of the potential distortions to arise because such projects are not subject to the current Regulatory Test. It has also been suggested that there is a lack of incentives for TNSPs to consider alternative non-network options when proposing to replace or reconfigure the existing transmission networks. This proposal was widely supported by market participants and TNSPs.

In March 2007, the Commission rejected a Rule change proposal submitted by Stanwell on this matter, suggesting that the issues raised would be best dealt with in a specific review of the application of the Regulatory Test. The NTP Issues Paper indicated that this Review presents an appropriate opportunity to evaluate this issue.

Reconfiguration investments generally arise when an asset require replacement and a TNSP identifies more efficient asset configurations to deliver required system

performance associated in the particular location. Although reconfigurations and replacement expenditure projects are not subject to the current Regulatory Test process, TNSPs are still subject to the financial incentives promoting efficient behaviour under the Chapter 6A framework.

With respect to “like-for-like” replacement expenditure, the Commission notes that any investment decision may have scope to deliver market benefits, even if the primary motivation for the investment is to replace an existing network element such that the prevailing capability of the network is maintained. Where other options exist which might deliver greater market benefits, those options should be assessed. However, where options other than like-for-like replacement do not exist, the RIT -T should not apply. To require TNSPs to apply the RIT-T in these circumstances would represent an unnecessary regulatory burden.

The proposed Rules have been amended to address the point made by Grid Australia at the NTP Public Forum that for projects which combine both replacement and augmentation expenditure, only projects where the augmentation component is more than \$5m will be subject to the RIT-T.

### **Urgent and Unforeseen network investment**

The Commission proposes that ‘urgent and unforeseen’ transmission investment is exempt from the RIT-T. This addresses directly a requirement of the COAG’s Communiqué that the new regime must not reduce or adversely impact on the ability for urgent and unforeseen transmission investment.

There should be sufficient flexibility within the contingent project mechanism to accommodate large foreseen but uncommitted investments. It should also be noted that under the Chapter 6A framework, all actual capital expenditure is rolled into the regulatory asset base without ex post prudence or efficiency assessment. Therefore under the current framework, TNSPs have access to funds to undertake urgent and unforeseen investments. The proposals for the RIT-T ensures that there are no other delays driven by regulatory procedure.

Under the proposed RIT-T, all prospective projects are required to be assessed on their ability to deliver both reliability and economic market benefits. This will require more analysis and resources compared to the current arrangements where reliability projects are assessed on the basis of cost alone. Requiring such investments to go through the proposed RIT process may place at risk the TNSPs ability to deliver the necessary investment within the defined timescales, if the investment were urgent and unforeseen. This would fail to meet the objectives for the new regime set out in the COAG Communiqué.

While there is potential for this exclusion to be exploited by TNSPs, the risk is considered to be relatively low. Misuse of this exclusion will represent a failure to comply with the Rules, subject to AER enforcement measures. Further, in the absence of extenuating circumstances (such as damage to a network due to extreme weather), the exclusion for urgent or unforeseen investment represents an admission of a planning failure by the relevant TNSP, and as such will carry a reputational cost. The Commission also notes that the likelihood of unplanned augmentations being

required urgently should decrease over time under the new national transmission planning arrangements.

#### **4.5.1 Information Disclosure Requirements for certain projects outside the scope of the RIT**

Detailed information should be disclosed in the TNSP's Annual Planning Reports on both urgent and unforeseen projects and like-for-like replacement expenditure projects which cost more than \$5m. Such information should cover the date, purpose and cost of the project.

The Commission seeks views on whether such disclosure would benefit the market and the extent of the information being requested is appropriate.

#### **4.6 Project specification consultation**

##### **Policy recommendation**

All projects subject to a RIT-T assessment will be required to go through a project specification consultation stage before any assessment of costs and benefits. The purpose of this stage is to consult on the range of materially relevant costs and benefits and the range of credible options. Market participants, including the NTP, will have the ability to comment on the possible market benefits and also possible options for consideration. The Commission recommends that the timeframe for the project consultation process should, at the minimum, be 12 weeks.

##### **Reasoning for policy recommendation**

The COAG requirement that the two 'limbs' of the existing Regulatory Test are integrated into a single 'limb' has implications for the consultation process underpinning the RIT-T. The current procedural differences determined by a TNSP's decision as to whether an investment is reliability or market benefits driven cannot be rolled forward in the context of a single 'limb'. A standard consultation process must apply to all projects subject to the RIT-T.

A key change effected through the Commission's Regulatory Test principles Rule change determination was the requirement for TNSPs to publish a Request for information (RFI) on potential options when applying the market benefits limb to new large transmission assets (those likely to involve more than \$10 million of capitalised expenditure). The rationale for the RFI requirement provided in the Commission's Final Rule Determination was threefold:

- to overcome the potential for gaming – both the incentive of opponents of a transmission investment to scuttle a transmission proposal by proposing unrealistic alternatives and the incentive of TNSPs to take too narrow a view of alternative options or scenarios;

- to help ensure something is built – so that augmentation options are considered against likely alternatives rather than alternatives that may not be developed; and
- to take account of regulatory failure – in that the theoretically ‘best’ alternative may not actually proceed.

It is proposed that the new arrangements include a similar consultation stage, which is called the project specification consultation, into the RIT-T.

This consultation stage will help to ensure that all potential options are identified and considered and will enable market participants, including the NTP, to inform the TNSPs on the extent of possible market benefits associated with the proposed investment. This ensures that the key inputs into the project assessment are subject to consultation which will help to improve the application of the assessment and aid transparency.

Some TNSPs have argued against any prior consultation on the grounds that it may lead to unnecessary delays. The Commission considers that prior consultation is necessary to improve the identification of alternatives and market benefits. Any process that enables TNSPs to label a prospective investment as a solely reliability project without consultation and assessment would retain the current distinction and not be consistent with the COAG Communiqué.

The precise timing of the project specification consultation will need to be determined by each relevant TNSP. However, this should occur at an earlier point in the process than the current Request for Information consultation, which generally occurs when a TNSP’s preferred option is fully developed and costed. In contrast, the purpose of the project specification consultation is to identify the circumstances prompting consideration of an investment response, and to set out the range of credible options for addressing the issue. The TNSP does not need to declare a preferred option at this stage, although in some circumstances it might wish to do so.

For its draft policy proposals for the NTP Public Forum, the Commission suggested that market participants should have a minimum of 26 weeks to respond to each project specification consultation. The purpose of this timeframe is to allow sufficient time for market participants to develop viable alternatives, including non – network options. However, recognising that the possible problem is likely to be highlighted earlier in the NTNDP and also possibly the APRs, and having regard to the view expressed by Grid Australia, that the proposed 6 month timeframe is excessive and will delay investment, the Commission now recommends a period of 12 weeks to allow for the project specification consultation. The Commission would welcome specific comments from interested parties as to whether such a time frame is appropriate.

## 4.7 Selection of Market Benefits and Costs to Quantified

### Policy recommendations

The TNSP will be required to assess the material relevance of each class of market benefit for each credible option. For the assessment, the TNSP must quantify those classes of market benefits associated with each credible option which, in its objective judgement, have a material relevance.

### Reason for policy recommendations

The Commission considers that the RIT-T should be supported by greater prescription in the Rules as to which classes of benefit and cost should be considered. This will promote consistency in application of the RIT-T, and remove any perception that results are influenced by the selective inclusion or exclusion of classes of costs or benefits.

On the approach for determining which market benefits need to be quantified under the project assessment, the Commission has evaluated two possible approaches. One approach would be to mandate the quantification of all market benefits. The alternative approach would give the TNSPs some guided discretion to decide, after a process of consultation, which classes of benefits require quantification on a case-by-case basis.

The Commission does not support mandating the quantification of all costs and benefits in all cases. It is considered that this may fail to deliver the objective of the COAG Communiqué and would not meet the criteria of good regulatory design and efficient outcomes. This is because mandating analysis could impose an unnecessary or impractical burden on transmission operators without adding value to the decision making process.

In light of the discussion at the public forum, the Commission has decided to amend its policy proposals and now does not propose an additional cost threshold (of between \$25m to \$35m) where the quantification of benefits is mandated.

It now considers that the RIT shall include a quantification of all classes of market benefits which are determined to be material. All classes of market benefit shall be considered to have material relevance unless:

- A detailed explanation is presented as to why a particular class of benefit is not expected to affect the outcome of the assessment stage; or
- The cost of undertaking the analysis to quantify the benefit is demonstrated to be disproportionate (to both the estimate cost of the option and possible benefit).

The burden of proof should be on the TNSP to demonstrate why a particular class of benefit does not need to be analysed in a particular set of circumstances. The project specification stage provides a mechanism for TNSPs to present such reasoning for

consultation, prior to finalising the analytical specification of an individual RIT assessment. In making its judgement on whether a class of benefit is material, the TNSP shall have regard to the views of market participants raised during the project consultation process.

This proposal will ensure proper assessment of market benefits and reduce the risk of compliance costs being unnecessarily high or the risk of unnecessary procedural delays. TNSPs will be required to assess the material relevance of each class of market benefit and inform market participants to its reasoning why it considers a certain class of benefit is not material. Also TNSP's judgement will be subject to dispute.

## **4.8 Selection of Credible Options for assessment**

### **Policy recommendation**

The Commission proposes that the current arrangements for selecting credible options for discretionary market benefit investments is applied to all prospective investments under the RIT. Whether an option has a proponent will be a factor for consideration in assessing possible options, but will not in itself exclude an option from being a credible option.

### **Reasoning for policy recommendation**

The application of a cost benefit framework requires the identification of the range of credible alternatives to be assessed. The most appropriate approach for this is for a TNSP, under an objective framework (including consultation) set out in the Rules, to determine which alternatives are credible and should be assessed under the RIT-T. The Rules should specify the definition of a credible option and require the TNSPs to apply this definition in an objective and balanced manner.

With respect to the framework for the selection of credible options, the current arrangements for identifying credible alternatives for discretionary market benefits investment are sensible and appropriate. Therefore it is proposed that such arrangements are extended to cover all projects.

The Commission considers that the proposed arrangements will give sufficient protection for TNSPs to dismiss unrealistic or insubstantial alternatives, while also ensuring that realistic and well-defined alternatives are given due consideration. The Commission notes that whether a project has a proponent would be a factor that the TNSP could have regard to when deciding whether an option is credible or not. This removes the current restriction that an option must have a proponent if it is to be considered as credible, in circumstances motivated by mandatory reliability obligations. Removing this restriction reduces the risk that practicable and efficient options are overlooked.

The Commission rejects Grid Australia argument that the proponent requirement for reliability investment must be retained. All possible options should be assessed on their own merits and ability to address the network problem. The associated risks

and liability management issues of each option would be a consideration in determining whether an option is both technically and commercially feasible.

## **4.9 Project Assessment**

Following a review of the submissions received on the project specification consultation, the TNSP will decide upon the credible options and material benefits to be assessed. The TNSP will carry out the cost-benefit analysis as required by the RIT-T developed by the AER.

The next stage will be for the TNSP to consult on the findings of the project assessment and the option which maximises net economic benefit through the publication of a project assessment draft report. The TNSP will also be required to provide reasoning for its decisions in respect to the selection of credible options and material market benefits.

To ensure timely investments it is appropriate to link the publication of the project assessment draft report to the date of project specification consultation report. It is proposed that if the TNSP elects to proceed with the investment then the project assessment draft report must be published within 12 months of the end of the consultation on the project specification.

Following a review of the submissions received on the project assessment draft report, the TNSP will then issue the project assessment conclusion report which will set out the TNSP final decision on the preferred option.

Box 4.1 sets out the sequential stages to the proposed RIT-T.

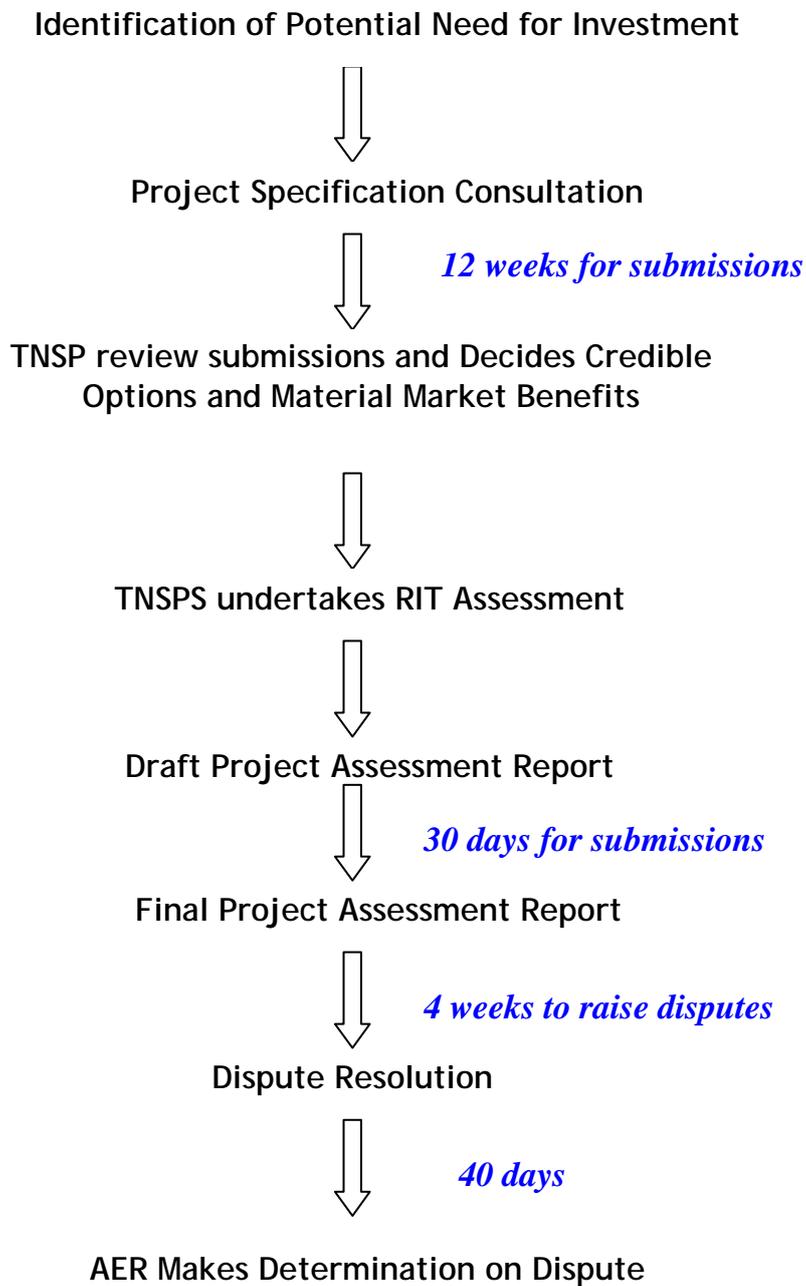
## **4.10 Dispute Resolution**

### **Policy recommendation**

A single consistent framework for dispute resolution is needed to support the amalgamation of the market benefit and reliability limbs of the current regulatory test. The Commission considers that retaining the distinction in dispute resolution between different types of investment is not appropriate for an integrated test.

The Commission's task is to develop a RIT-T which is capable of being applied consistently across all prospective investments. This requires a single, consistent framework for disputes. A dispute resolution framework based on two separate 'limbs' is not feasible under an integrated test.

**Box 4.1: Regulatory Investment Test Stages**



It is recommended that the Rules contains more specification and detail on the basis for resolving disputes. The basis for assessing disputes should be whether the TNSP has complied with the Rules and the AER's RIT-T, and not on whether the best options has been selected.

## Reasoning for policy recommendation

Under the current arrangements, only issues relating to new large transmission augmentations (projects costing more than \$10m) can be disputed. Also the dispute process and possible grounds for dispute differ depending on whether the augmentation is labelled as a reliability investment or a discretionary market benefit investments. The scope for disputes is greater for market benefits investments than for reliability augmentations.

The Commission's task has been to develop a RIT-T which is capable of being applied consistently across all prospective investments. This requires a single, consistent framework for disputes. A dispute resolution framework based on two separate 'limbs' is not feasible under an integrated test.

The Commission proposes that for all transmission projects that are subject to the RIT-T, interested parties can raise disputes in relation to the application of the RIT-T assessment, including the choice of credible options, the choice of classes of benefit to quantify, the accuracy of the analysis, and the results of the RIT-T.

This recommendation will extend the scope of projects subject to dispute to now include projects costing between \$10m and \$5m. It is appropriate for all projects that are subject to the RIT-T to also be subject to the new dispute resolution. Creating a secondary higher cost threshold would not reflect good regulatory practice. Furthermore the dollar value of a project does not necessarily reflect the impact of the investment on the network.

It is also appropriate for the Rules to contain more specification and detail on the basis for resolving disputes. The Commission is concerned that the current Rules do not specify any criteria or framework governing the AER in determining disputes. This creates uncertainty for participants disputing the assessment and the affected TNSPs.

Under the RIT-T, it is proposed that the AER's role in determining a dispute is limited to assessing whether parties have correctly applied the RIT-T in accordance with the Rules, and directing the TNSP to amend its analysis accordingly. The AER's role should not, in the Commission's view, be a merits review. Further, it is important that the AER has the ability to reject disputes immediately if the grounds for dispute are invalid, misconceived or lacking in substance. This safeguard is needed to protect against parties raising baseless or vexatious disputes in order to delay projects.

Under this proposed framework, 40 business days should be sufficient time to enable the AER to make a dispute determination. The Commission would welcome comments on whether this time frame is appropriate.

## **4.11 Other Issues relating to RIT**

### **4.11.1 Additional Market Benefit category of option Value**

The Commission recommends adding an additional class of market benefits to allow any option value associated with option to be assessed. This would cover any benefits that proposed project may have for future investments and costs.

For example, a non-network investment may help to defer a network investment. This would enable the deferred network investment to benefit from improved information and therefore be more appropriately specified. Another example of option value, would be from the value of increasing the capacity of a radial line above the level to service required by the reliability planning standards to allow for the possibility new generation connecting without any future investment.

Inclusion of this class of benefit may facilitate a more strategic assessment of projects. The Commission would welcome views on whether this category of benefits should be included.

### **4.11.2 The RIT-T in the context of climate change policy**

The context within which the RIT-T will operate is likely to be impacted by the ongoing development of policy responses to climate change. While not within the immediate scope of the review, the Commission has also considered whether the wider changes should be made in this regard in transitioning from the existing Regulatory Test to the RIT-T, i.e. to ensure that the various instruments which value carbon are treated appropriately. Two particular questions have been addressed:

- a) whether the specified classes of costs and benefits adequately cover relevant environment impacts; and
- b) whether the provision that excludes externalities from the analysis<sup>14</sup> may prevent the inclusion of related impacts of environment policies in the analysis (e.g., the obligations for retailers with regard to Renewable Energy Certificates (REC))

It is understood that in developing the current Regulatory Test, the AER decided to remove the explicit reference to environmental costs and benefits in the definition of costs [clause 2 (c) of the existing test] on the basis that this level of detail was more appropriate for guidelines, and that a more generic reference to any costs of complying to laws, regulations and applicable administrative requirements, was

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<sup>14</sup> “Any cost or benefit which cannot be measured as a cost or benefit to producers, distributors, and consumers of electricity may not be included in the analysis proposed in accordance with this test” AER Regulatory Test Version 3, clause 10.

more appropriate.<sup>15</sup> The AER also provided direction in relation to the treatment of environment costs in its Guidelines.<sup>16</sup>

The Commission proposes to incorporate the same provisions applied to the current test into the new RIT-T. With the increasing role of climate change policy as a likely driver of economic decision-making, it is important that the design of the RIT-T is fit-for-purpose in this regard.

The Commission would welcome views on this question, including in particular whether and how the costs and benefits associated with an emissions trading scheme and schemes based on retailer obligations to procure specified proportions of energy from renewable sources, are captured in the current draft legal text for the RIT-T. The Commission would also welcome views on whether it is appropriate to develop and implement any required changes through the process of this review, or through another process.

Also, a related issue of transparency is that given the increasing focus on climate change, whether there would be any benefit by having a separate class of market benefit for any “changes in costs through avoidance of greenhouse gas emissions and any associated carbon costs”. This would make it transparent as to how the TNSP accounts for carbon costs in project assessment process. Again the Commission requests views on having an explicit separate class of cost and market benefit for costs and benefits related to the valuation of carbon.

There may be an issue relating the treatment of prospective environmental laws that may arise into future. It is possible that participants may be investing in anticipation of future environmental laws. Under the proposed RIT-T, the TNSP will be required to do a cost benefit analysis based on an assessment of reasonable future scenarios. TNSPs are expected to have regard to likely government policy and do appropriate probabilistic assessments in determining the reasonable scenarios for the analysis.

#### **4.11.3 Appropriate Division between Rules and Regulatory Test and Guidelines**

A key element of the process introduced following the Commission’s 2006 Determination on the MCE reform of the Regulatory Test principles rule change proposal was an improved governance structure for the Test.<sup>17</sup> Under the new structure, there are three distinct but complementary aspects to the application of the project assessment and consultation process:

- Principles on how the Regulatory Investment Test for Transmission should be applied, which are set out in the Rules;
- The Regulatory Investment Test for Transmission – which is developed by the AER in accordance with the principles set out in the Rules; and

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<sup>15</sup> AER, Final Decision, Regulatory Test Version 3 & Application Guidelines, November 2007.

<sup>16</sup> AER, Regulatory Test Application Guidelines, November 2007, part 3 (b).

<sup>17</sup> AEMC, Final Rule Determination, Reform of the Regulatory Test Principles Rule, 30 November 2006.

- Guidelines for the operation and application of the Regulatory Investment Test, for Transmission which AER is required to published.

Under this framework, the Rules set out principles that the AER must adopt in promulgating the test. The purpose of this is to ensure that the test is applied in a consistent manner, which provides a level of certainty to NSPs in undertaking new network investment, while leaving sufficient discretion with the AER to promulgate the test consistent with its role as the regulator.

The Commission is proposing to expand the list of principles and to bring more prescription on the procedure and framework for the new RIT-T into the Rules. This is to ensure that the new Test is consistently applied, thereby improving certainty for all market participants in how the transmission investment projects are assessed. The Commission also considers the proposed structure will retain a level of sufficient flexibility for the AER to make and oversee the RIT-T consistent with its role as the regulator. The new RIT-T needs to be flexibility so that can it assess a range of projects of varying size and complexity.

The AER will remain responsible for making the test. Also it is proposed that greater level of description and explanation on possible methodologies, supported by examples, should be provided within the AER guidelines. This will help TNSPs in their assessment of market benefits and costs and improve the level of predictability for market participants in how RIT-T assessments are undertaken.

The Commission considers that this strikes the appropriate balance between the Rules providing the appropriate framework to achieve the policy goals for the RIT-T and the regulator in ensuring compliance with the Rules in the making and administration of the Test, so that the policy goals are achieved in practice. The Commission would appreciate comments from market participants on whether the proposed arrangements achieves the right balance.

## 5 Revenue and Pricing Framework

This chapter sets out the Commission's recommendations on three policy issues relating to the framework for economic regulation of transmission. These issues are ancillary to the establishment of the NTP and the RIT-T, but have the potential to influence how successfully the new arrangements achieve the objective of the COAG Communiqué and drive more efficient outcomes. The three issues are: the regulatory arrangement for levying transmission charges across regional boundaries; the timing of revenue re-sets for network businesses; and the consequential changes to the Rules required to reflect appropriately the establishment of the NTP and the RIT-T.

### **Summary of recommendations**

#### **Transmission charging across regional boundaries**

The Commission remains of the view that amending the regulatory framework for inter-regional charging is an important complementary measure to establishing a NTP and RIT-T. The advice to the MCE to be contained in the Final Report is likely to recommend a specific approach and a work plan to develop the approach in detail for practical application.

This chapter sets out for consultation four options based on a review of other markets, and an analysis of how different options might be applied specifically to the NEM. Currently the Commission does not have a preferred model – although all models would appear to have merits relative to the status quo – and would welcome stakeholder views.

#### **Timing of revenue re-sets for network businesses**

The Commission does not intend to recommend alignment of the dates of revenue re-sets for transmission companies. The cost of implementation are likely to be significant, while the benefits would not appear to be material. The publication of the annual NTNDP and the contingency project mechanism will enable the AER to address the concerns raised by ERIG adopt NEM wide approach in facilitating nationally co-ordinated transmission investment. The Commission does, however, considers that alignment of transmission and distribution re-sets within a particular geographic area might have merit and notes the potential for further work to be undertaken.

#### **Consequential changes to the Rules to reflect NTP and RIT-T**

A small number of consequential changes to the Rules are required, to ensure that the NTP and its outputs are reflected appropriately, and to ensure that the planning obligations of TNSPs recognise the need to plan to deliver reliability and national market benefits.

## 5.1 Inter-regional transmission charging

### 5.1.1 Scope

#### Policy position

The Commission considers that it is appropriate to provide recommendations to the MCE on the design of a new framework for inter-regional transmission charging. The recommendations in the Commission's Final Report intends to set out a preferred approach, and define a work program to develop a detailed design and implementation plan.

#### Reasoning for policy position

A key policy issue facing the development of a national and co-ordinated electricity market is how to allocate costs for projects that deliver market benefits over more than one jurisdiction. Currently a TNSP recovers its own costs in building and operating the network from customers within its region. The exemption provided in the Rules (Clause 3.6.5(a) (5)) is for inter-regional charges to be established through inter-governmental negotiation and agreement.

The Commission highlighted the weaknesses of the current regime for inter-regional charging in its 2006 review of economic regulation for transmission, although it did not provide explicit recommendations at that time. The Commission has re-evaluated this position in the context of the NTP review, including in the light of the report prepared by the Brattle Group on international experience in transmission planning arrangements. The Brattle report identified the absence of robust arrangements for inter-regional charging as a significant generic barrier to co-ordinated planning of efficient transmission investment across different regions. Brattle stated that the existence of cost allocation mechanisms that allow for transfers between transmission operators, minimises the creations of "winners and losers" enhances the chances of successful co-operation and provides improved locational incentives. Brattle noted that most overseas systems have evolved towards formal cost transfer mechanisms and moved away from the traditional methodologies that only allowed transmission operators to earn revenue from its own customers.<sup>18</sup>

It is noted also that Grid Australia raised concerns about the Brattle report, and in particular the extent to which experience in other markets was relevant to the particular settings of the NEM.<sup>19</sup>

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<sup>18</sup> Brattle, International Review of Transmission Planning Arrangements, A report for the AEMC, October 2007.

<sup>19</sup> Grid Australia letter to AEMC, 13 November 2007, regarding National Transmission Planning Arrangements Review – Publication of the Brattle and Firecone Reports. This can accessed from the AEMC website, [www.aemc.gov.au](http://www.aemc.gov.au)

The Commission remains of the view that the current arrangement represents a weakness in the regulatory framework that should be addressed, and one which is directly relevant to the NTP and the RIT-T. There are two potential problems:

- First, the **risk of sub-optimal investment plans**. Based on a strict economic analysis an individual TNSP should be indifferent between projects that benefit consumers in its jurisdiction and projects that benefit consumers in another jurisdiction. There is no explicit difference in the revenue treatment of such investments. However, there might be ‘softer’ influences on TNSP behaviour, if particular investments impose costs but confer no benefits on local consumers.
- Second, the **dilution of cost-reflective price signals** to users of the transmission network. This is more clear-cut. The constrained ability to levy transmission charges across jurisdictional boundaries represents a direct barrier to attaining cost-reflective charges. Cost-reflective charges are important because they have the potential to promote efficient decision-making by market participants.

The absence of an effective regime for inter-regional charging also has distributional impacts which might be considered to be inequitable, i.e. consumers in one region paying higher electricity bills to fund network investment which benefits consumers in another region. While these are less directly relevant from the strict perspective of economic efficiency, they might be relevant considerations in the wider context of regulatory consistency and stability. It should be noted that the size of these transfers between classes of consumers under the current regime might be expected to be increasing over time as the NEM, in general, becomes more inter-connected.

Submissions to the NTP Issues Paper were divided between whether it was appropriate for the Commission to consider this issue as part the NTP Review. The AER agreed that this matter should be explored by the Commission and noted that the appropriate mechanism will depend on the extent of the problem and whether this is more of a cost transfer issue than an economic incentive issue.

ESIPC thought that the current weakness for TUoS not to cross borders leads to a disincentive on TNSP to invest in augmentations that have non-local benefits and stated that the ability to transfer costs across regions is a pre-requisite to an effective national transmission scheme. Energy Australia stated that greater levels of interconnection will make the deficiencies in the current state-based pricing regime more apparent and hence some treatment of TUoS is appropriate. VENCORP stated that the Commission needs to address how the costs of an augmentation will be allocated.

Some other submissions thought that the treatment of TUoS was out of scope for this Review. Grid Australia was of this view and stated that there is no serious impediment for TNSPs investing in projects that deliver benefits across regions. Grid Australia suggested that the Commission should assess the materiality of the perceived problem compared to the potential solution. ERAA, on the other hand, considered that the cross-border payment mechanism as being significant but that this policy should come from the MCE.

The Commission considers that the implementation of a formal and transparent inter-regional transmission charging arrangement is essential to the development of

a national and co-ordinated transmission grid. ERIG reached a similar conclusion stating in its final report that the development of an efficient and robust inter-jurisdictional TUOS payment system will be necessary as the development of the transmission grid takes on a more national focus, especially with the increase likelihood of future interconnection needed to support the development of a efficient and strategic grid.<sup>20</sup> The Commission notes that the recommendations on this matter will be for a policy decision by the MCE.

### 5.1.2 Design of an inter-regional charging framework

#### Policy position

To assist in the development of workable models of inter-regional transmission charging for the NEM, analysis was commissioned from the Brattle Consulting Group and Frontier Economics. The Brattle Group provided a report on possible approaches to inter-regional charging system based on international experience and Frontier advised on the application to the NEM of a range of possible approaches specified by the Commission. Both consultancy reports have been published.<sup>21</sup>

In designing a framework for inter-regional charging, the following generic questions need to be answered:

- What costs are being recovered?
- How are the costs allocated between TNSPs?, and
- How are the charges levied between TNSPs reflected in transmission charges to users

In this context, and informed by the Brattle report, the Commission has developed four possible inter-regional charging options, on which it is seeking views. The options are:

- **Option 1:** The costs of new investment in assets to enhance the interconnected network are shared between the relevant adjacent TNSPs (Interconnection cost sharing);
- **Option 2:** The costs of new investment in assets to enhance the interconnected network are shared between all TNSPs in the NEM (NEM-wide interconnection cost sharing);
- **Option 3:** Each TNSP charges its neighbouring TNSP as if (and to the extent) it is a load (Load export charge); and

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<sup>20</sup> ERIG, Final Report to COAG, January 2007, p.180.

<sup>21</sup> Both the Brattle and Frontier's reports can be accessed from the AEMC Website. [www.aemc.gov.au](http://www.aemc.gov.au)

- **Option 4:** The regulated revenue allowances of all TNSPs are pooled and the recovered through a single, NEM-wide charging methodology (NEM-wide methodology).

The Commission seeks stakeholder comments on these options and will evaluate the possible options against the decision making criteria for the NTP Review, specified in section 1.2.2, informed by the views of stakeholders. Recommendations to the MCE for the introduction of a defined inter-regional charging mechanism should be justified in promoting the efficiency of the market and be consistent with good regulatory practice and design. Furthermore the costs and risks with implementing a new mechanism will need to be recognised and minimised.

### 5.1.3 Commentary on different options

#### *Option 1 – Interconnection cost sharing*

Under Option 1, the costs associated with new interconnection assets are identified and allocated amongst the relevant pair of TNSPs. A methodology is required for determining the identity of the relevant pair of TNSPs. In most cases, this will probably be straight-forward, but in other cases it might be more subjective, e.g. when an investment impacts on the flow capability of two interconnectors. Option 1 also required a method for determining which proposed assets should be shared across the two regions. This could either be through a simple objective rule, as in the US where all assets above 330 kV are deemed to be interconnection assets. Alternatively, it could be through a more detailed, technical assessment on a case-by-case basis of the particular characteristics of the asset in question. The responsibility for determining what constitutes inter-connection assets could be assigned to a third party, e.g. AEMO, possibly using the existing IRPC criteria for determining whether a project has a material inter-network impact.

Option 1 would also require a method for establishing how the total costs of the asset are to be shared costs between the two TNSPs. A simple sharing rule, e.g. 50-50, could be used. Alternatively, a more complex, and cost reflective, methodology, might be adopted, e.g. based on load flow analysis. Experience from continental Europe suggests that more complex sharing rules are difficult to agree on, and can cause delays to implementation. Finally, Option 1 would require a method for determining how the additional charges levied on each TNSP would be recovered by that TNSP from network users in its area. The more consistent approach in the context of the NEM would be to leave this decision with the relevant TNSP to be incorporated in a cost-reflective manner in its charging methodology more generally.

#### *Option 2 – NEM-wide interconnection cost sharing*

Option 2 is an extension of option 1 where instead of the identified assets being shared across the adjacent regions, the costs of all new interconnection assets across the NEM and allocated across all TNSPs. Such an approach would reflect the notion that any interconnection benefits the whole market and not just two regions. It might also reflect a recognition of the practical difficulty in some instances of attributing a particular investment accurately to a pair of TNSPs. Option 2 may require a central

body to administer the resulting payments between TNSPs, in contrast to Option 1 where the settlement could be arranged bilaterally.

#### *Option 3 –Load export charge*

For Option 3, each TNSP calculates an export charge to be applied to any flow on the interconnector. Therefore each interconnector would be treated as if it was a load at the boundary of the region. This export charge is levied on the importing TNSP who then recovers the costs of the charge from its own customers. This export charge would cover the cost of both existing and new assets which contribute to the export flow. This contrasts with Options 1 and 2, which limit the charges only to recover the costs of new interconnection assets. The differences in actual charges between Option 3 and Options 1 and 2 will, therefore, be more acute in the first instance.

A load export charge could be introduced simply through extension of the existing transmission pricing methodology for loads. Currently, load within each region are subject to charges for: prescribed exit charges; prescribed common transmission services; and prescribed TUoS services – including both a locational and a non-locational component.

The possible approaches for the TNSP to recover the inter-regional charge are common across options 1, 2 and 3. The choice is whether the importing TNSP should either recover the charge through the non-locational component, and hence smear it across all its customers, or through the locational component of its prescribed TUoS charge.

#### *Option 4 – Uniform NEM-wide charging methodology*

Option 4 would result in a common methodology for the calculation and imposition of transmission charges in respect of all new and existing assets across the NEM. Hence the NEM would become one single transmission pricing region. A centralised arrangement would be established to ensure that the revenue collected is properly distributed across the TNSPs.

Option 4 would represent a fundamental change to the current arrangements and would require developing and implementing a uniform methodology across the entire NEM. This would go against the Commission’s decision in the Chapter 6A pricing review to minimise the extent of prescription in the Rules and permit each TNSPs to adapt their pricing methodology to suit local conditions. Like option 2, this approach would require a centralised mechanism to administer the distribution of revenue among the TNSPs. This could either be done via a centralised independent body or via a contractual agreement amongst TNSPs.

#### *Other options not being progressed*

In its Chapter 6A review on transmission pricing, the Commission raised another possible approach of splitting the Inter-Regional Settlement Residue (IRSR) auction proceeds equally between the exporting and importing regions.

Although such an approach would partially recognise the benefit that the importing region’s network users gain from the exporting TNSP’s network, and could easily be

implemented, it is not an inter-regional charging mechanism and the Commission has decided not to include it in its assessment. Under this approach, the transfer between regions is not linked to either the cost of or the benefit received from the asset and therefore would not reflect any economic signals. Also it would not seem to be sensible to link recovery of an interconnection investment to the pool of revenue of IRSR auction proceeds, since an additional interconnection investment could lead to a decrease in IRSR auction proceeds.

## **5.2 Simultaneous Reviews for TNSPs Revenue Determination**

### **Policy recommendation**

The Commission is not proposing to recommend alignment of TNSP revenue determinations because it considers that the associated costs of alignment are substantial and benefits referred in the ERIG Report will instead be achieved through the establishment of the NTP function and the continuing application of the Chapter 6A revenue Rules. The NTP will take a NEM wide view to planning and therefore be able to provide advice and information, through the annual NTNDP, to enable the AER to take a NEM wide view when assessing each TNSP revenue determination. Furthermore the contingency project mechanism enables the AER to align triggers to bring the costs of inter-regional investment into TNSPs allowed revenue, even then the revenue periods for the respective TNSPs are not aligned.

### **Reasoning for policy recommendation**

The Terms of Reference requested the Commission to give ‘consideration of alignment of regulatory periods to further reinforce the national character of the planning arrangements’.

The ERIG report stated that the current arrangement of sequential revenue cap determinations limits national co-ordinated investment because individual TNSP revenues were determined in isolation and this situation may neglect opportunities for inter-regional investment planning. The current arrangements were also considered to impinge upon the regulator’s capacity to evaluate costs to determine efficient expenditure levels.

The proposed NTNDP, which is updated annually, is a more targeted and effective response to the concerns of ERIG than aligning TNSP revenue periods. The annual NTNDP will identify potential inter-regional investments and will discuss how investments in one network could impact on investment requirements of the other networks. This will enable the AER to take a NEM wide view when setting each TNSPs revenue allowance. Also it is not clear what additional information beyond the NTNDP could be obtained by the AER from simultaneous revenue reset periods.

Furthermore the contingency project mechanism allows for large inter-regional projects to be handled in a streamlined manner even where revenue periods are not aligned. This mechanism enables an aligned trigger for funding of such projects. The Commission also notes that there are practical difficulties with the alignment

proposal and would require extensive transition arrangements and could take up to 12 years to achieve.

In reaching its position, the Commission has had regard to the views of participants. All submissions received were against this proposal and raised significant practical difficulties. The AER argued against alignment because it would create onerous resourcing constraints on its regulatory functions and it noted that it would not be possible to align the control periods until 2019. The EUAA stated that the practicality of simultaneous reviews is questionable due to resource requirements. The APA Group raised the risk that the AER would adopt a “one size fits all” approach to different types of network and considered that there will be hidden costs in aligning the revenue reset periods.

A number of submissions raised the alternative proposal of aligning each regions’ transmission and distribution revenue determinations, especially once the AER takes over responsibility for distribution. The Commission’s initial view is that such alignment could be beneficial to the market and would reflect the joint planning framework set out in chapter 5 of the Rules. The Commission proposes to advise the MCE to conduct a more detailed review into alignment of revenue determination periods of regional transmission and distribution companies.

### **5.3 Other Changes to Chapter 6A**

#### **5.3.1 Regulatory Investment Test and the AER Revenue Determination Process**

A number of submissions raised the issue of how the Regulatory test interacts with the AER Revenue Determination.

Following the Commission’s determination on the revenue framework for Chapter 6A, in determining whether the TNSP revenue proposals meet the criteria of an efficient and prudent operator, the AER is required to have regard to a number of different factors. However, whether or not a project has passed the regulatory test is not one of the factors. Although it is a requirement for the TNSPs to identify in its revenue proposals any proposed expenditure which is for a project that has already passed the regulatory test.<sup>22</sup> Also under the current arrangements, the regulatory test does have specific application to the triggering of approval for contingent projects and also for any expenditure incurred outside the ex-ante revenue allowance.

With the implementation of a new national transmission planning function and the proposed new Regulatory Investment Test, the Commission considers it is important to assess the role of the project assessment process within the revenue determination framework. The Commission notes the ERIG report which stated that the links between the regulatory test and the economic regulatory regime are tenuous at best

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<sup>22</sup> Clause 6A 6.7.

and that the role of the regulatory test with the TNSP's regulatory period needs to be considered.

The Commission proposes that the list of factors that the AER must have regard in assessing the TNSP's proposed operational and capital expenditure is amended to include, where applicable, any RIT-T project assessment conclusion reports associated with any project that form part of the revenue proposal. The Project assessment conclusion report will contain substantial information on the economic justification of the project which will assist the AER in its determination.

This proposed amendment does not mean that all projects that form part of a TNSP revenue proposal must have passed the RIT-T. Nor should it force a TNSP to apply a project-by-project approach in setting out its proposals for its investment requirements. Also the analysis performed by the AER in setting the ex-ante revenue allowance is vital to the current regulatory regime and the RIT-T process should not be a substitution to that process.

Therefore it is proposed that the information contained in any relevant project assessment conclusion reports is another factor, among the other specified factors that the AER will consider in approving a TNSP's revenue proposal.

### **5.3.2 NTP input into the AER Revenue Determination Process**

The MCE Terms of Reference states that "AER will have regard to the Plan and the advice of the NTP when making revenue determinations, and the TNSPs when putting forward to revenue proposals to the AER, to demonstrate that projects are aligned with the Plan". The Commission considers that two amendments to chapter 6A are needed to implement this policy.

First, when submitting capital expenditure proposals to the AER, TNSPs should be obliged to provide an analysis of the relationship between their proposal and the development strategies contained in the most recent NTNDP, in particular where there are significant variances between the TNSP proposals and the NTNDP. In the Commission's view, this increases the extent to which TNSPs are accountable for their investment proposals and decisions.

Second, the Rules should oblige the AER to have regard to, amongst other factors, the NTNDP and the advice of the NTP. This will only be one of the factors that the AER is required to take into consideration when making a revenue determination.

These proposed amendments are set out in Section 6 of the other amendments section to the NTP legal drafting contained in Appendix C (ii).

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## 6 Inter-Regional Planning Committee Functions

The Inter Regional Planning Committee (IRPC), which is made up of representatives from NEMMCO and each of the Jurisdiction Planning Bodies (JPBs), is tasked with various functions in the Rules. The functions are often technical in nature and cover a wide range of operational and planning activities. The COAG Communiqué states that the proposed National Transmission Planning arrangements will replace the IRPC and this chapter sets out how the Commission proposes to incorporate these functions into the new arrangements.

### **Summary of recommendations**

The functions of the IRPC add value to the market, and this should be retained to the extent that they are not rendered redundant by the establishment of the NTP.

#### **Advising on the exercise of the Last Resort Planning Power**

The IRPC function of providing advice to the AEMC in respect of the exercise of the LRPP will be transferred directly to the NTP.

#### **Other technical and operation functions**

The remaining functions of the IRPC are technical and operational in nature and can require IRPC to make decisions on a range of matters. In order to implement the COAG Communiqué, the AEMO, acting as the NTP, will now become responsible for all such functions. In exercising these functions, the NTP will be subject to the NTP objective and supporting considerations, and also have regard to any input from the NTP Advisory Committee. This will ensure that the functions are exercised under an appropriate and transparent framework.

Transferring the functions to a single body compared to maintaining a committee of different organisations with shared responsibility, would reflect better regulatory design and accountability principles. However the JPBs should continue to be involved through providing support and advice to the NTP. Hence it is also recommended that the NTP is required to have regard to the views of the JPBs when undertaking such functions.

### **6.1 Advice on the exercise of the Last Resort Planning Power**

Currently the IRPC is required to provide advice to the AEMC regarding the Last Resort Planning Power (LRPP), which allows the AEMC to direct TNSPs to undertake the Regulatory test where a planning failure is identified. The advisory role should be transferred to the NTP under the new arrangements. Such advice is likely to be perceived as having greater independence coming from the NTP, as compared to the IRPC, since the latter is predominantly constituted by the Jurisdictional Planning Bodies.

There is likely to continue to be a useful role for the LRPP under the new planning arrangements. While the new RIT-T and NTNDP will encourage transmission investments with market benefits to be identified and undertaken by TNSPs, they cannot ultimately compel such investment; nor can TNSPs be forced to undertake the RIT-T. The risk, albeit a reduced one, of planning failure still remains. The LRPP will therefore continue to provide a useful safeguard against planning failure.

The question of whether the Commission is best placed to undertake the role of the LRPP was considered in the Issues Paper. There are concerns with conferring either the AER or the NTP with this role. In the former case a LRPP may conflict with the AER's role in developing RIT-T and assessing RIT-T applications in certain circumstances. In the latter case, an NTP which has a more activist role, i.e. in directing TNSPs to undertake the RIT-T, would be inconsistent with a governance framework that assigns responsibility and accountability for investment to TNSPs.

It is prudent therefore that the responsibility of the LRPP remains with the Commission.

## **6.2 Other technical and operational functions**

### **6.2.1 Providing Assistance to NEMMCO for the preparation of the SOO and ANTS**

Clauses 5.6.3 (a) (1) and (2) require the IRPC to provide such assistance as NEMMCO reasonably requests in connection with the preparation of the Statement of Opportunities (SOO) and the carrying out of the ANTS Review respectively.

In its submission to the Issues Paper, NEMMCO stated that the obligations codified in the Rules should be on individual organisations rather than groups, because it is difficult to make groups accountable for the actions of individual organisations.<sup>23</sup>

Publication of the SOO will remain the responsibility of AEMO under the new arrangements. It is considered that the AEMO should continue to have the ability to seek assistance from the jurisdictions, as long as such assistance is reasonably required. The Commission also agrees with NEMMCO that the obligation should be placed on individual JPBs and not a collective committee. Therefore it is recommended that clause 3.13.3 (s) is changed to reflect this. The proposed amendments is contained in Schedule 2 [2] of the NTP draft Rules.

As noted in section 2, the NTNDP will replace the ANTS.. The obligations placed on JPBs and TNSPs to provide information and assist in the preparation of the annual Plan were discussed in section 2.5.

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<sup>23</sup> NEMMCO, Submission to the NTP Arrangements Issues Paper, 18 December 2007, p.5.

## **6.2.2 Material Inter-Network Impact Criteria and Technical Augmentation Reports for material inter-network projects**

The Rules placed two obligations on the IRPC relating to augmentations projects that may have inter-regional impacts. Firstly, the IRPC is required to publish an objective set of criteria for assessing whether a proposed network is reasonably likely to have a material inter-network impact. Secondly, the IRPC may be requested by a TNSP to publish an augmentation technical report on projects which are classified as having a material inter-network impact under the published criteria. The TNSP will only request the IRPC to produce a report if it has not received consent from the affected TNSP(s) for the proposed augmentation.

The Rules currently define material inter-network impact as:

“ A material impact on another TNSP’s network, which impact may include (without limitation): a) imposition of power transfer constraints within another TNSP’s network or b) adverse impact on the quality supply in another TNSP’s network.”

The criteria add clarity to this definition through specifying technical requirements to determine whether an investment in one region materially affects either the ability of another region’s TNSP to transfer power or the quality of supply provided by the TNSP. The assessment of a material impact is required under planning and approval processes for augmentations include new large and new small network projects and funded augmentations. This assessment against the criteria gives each TNSP a right to object to projects that it considers materially affects their respective network. Also the ability to request the IRPC to publish a report provides a framework and procedure for resolving such disputes between TNSPs.

The IRPC published its final determination on criteria for assessing a material Inter-Network Impact on 21 October 2004 based on principles provided by National Electricity Code Administrator.

It is clear that the rationale for having such criteria remains under the new arrangements. Likewise, a TNSP should continue to have the ability to request a technical augmentation report, although the Commission understands that no such reports have ever been requested. The Commission proposes that both these functions are transferred to the NTP under the new arrangements.

Under the proposed new arrangements, the NTP will have the ability to amend the criteria having regard to the views of JBPs and in accordance with the Rules Consultation Procedures. It is proposed that the provision for the Commission to provide guiding objectives and principles for such criteria continues under the new arrangements. However the Commission is keen to seek views on whether it should continue to be body responsible for providing such principles or should the responsibility be transferred to the NTP.

Under the current arrangements, market participants have the right to dispute a TNSPs determination as whether a project has a material inter-network impact under the regulatory test. It is recommended that this ability is retained under the RIT-T.

### 6.2.3 Reliability Augmentation Criteria

Under clause 5.6.3(1), the IRPC must develop and publish an objective set of criteria for assessing whether a proposed transmission augmentation is a reliability augmentation.<sup>24</sup> In developing such criteria, the IRPC must have regard to guiding objectives and principles provided by the Commission.

One purpose of such criteria is to protect against TNSPs labelling augmentations which are discretionary, uneconomic market benefit investments as reliability augmentations in order to get such projects through the Regulatory Test. Under the current Rules, parties can dispute whether a proposed reliability project satisfies the IRPC guidelines and this affords some protection to consumers. The benefits of such criteria are to guide participants raising disputes and to guide the AER in making determinations on such disputes.<sup>25</sup>

As explained in chapter 4, under the RIT-T, the current reliability and market benefits limbs will be amalgamated into a single cost-benefit decision making rule. However a distinction in assessment is retained to allow for any necessary reliability augmentations which have a negative NPV to be approved. Therefore, in theory, the risk of a TNSP incorrectly classifying uneconomic discretionary projects as reliability augmentations remains under the new arrangements.

To date, the Commission has not provided any guiding objectives and the IRPC has not published any criteria in guidelines. The question of having such criteria was raised during the 2006 Reform of the Regulatory Test Principles Rule Change.<sup>26</sup> At that time, the IRPC stated that the requirement to provide an objective set of criteria for defining reliability augmentation is unnecessary and should be deleted. The IRPC noted that it had attempted to draft such criteria in 2003 but it was unable to develop such a set of criteria. The Commission ruled that this issue was out of scope of that Rule Change Proposal.

The Commission considers that it is necessary to retain the ability for market participants to dispute whether a project is a reliability augmentation. This will provide a discipline on TNSPs to properly identify whether a project is required to meet a mandatory reliability standard. However it is also judged that the current definition of reliability augmentation is tight enough to remove any ambiguity and therefore the rationale and benefit for requiring the publication of criteria is not clear.

Therefore it is recommended that the requirement for the publication of criteria on assessing whether a project is a reliability augmentation is removed from the Rules. Instead, the AER has the ability to provide further guidance on this matter in its RIT-T Guidelines if it considers that such guidance would improve the application and

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<sup>24</sup> A reliability augmentation is defined in Rules as "an augmentation which is necessitated principally by inability to meet the minimum network performance in Schedule 5.1 or in relevant legislation, regulations or any statutory instruments of a jurisdiction".

<sup>25</sup> TNSPs are also required to specify which proposed projects are reliability augmentations in their revenue determination proposal under clause 6a.6.7 (b) (4).

<sup>26</sup> AEMC, Reform of the Regulatory Test Principles Rule 2006, Final Determination 30 November 2006.

process of the test. The Commission welcomes views from market participants on this recommendation.

#### **6.2.4 Inter-Network Test Guidelines and Recommendations**

An inter-network test verifies the magnitude of the power transfer capability of more than one transmission network. The purpose of the test is to improve certainty on power system performance and it can be triggered when either an augmentation, new generation or load is commissioned. A test can also be triggered when setting changes are applied to critical control systems, or when events occur that are not adequately explained by the power system model. To conduct the test a definition of the technical envelope of network power system capability is required.

The IRPC has the responsibility in publishing guidelines and to determine when an inter-network test may be required, and also advise NEMMCO on the arrangements to conduct an inter-network test.

The arrangements for inter-network tests set out in clause 5.7.7 of the Rules are very detailed and specify the different parties' responsibilities and the test procedures. There is no reason to change this clause under the NTP implementation.

In February 2008, the IRPC published its final determination on the inter-network test guidelines. The existing guidelines should continue under the new arrangements, with the NTP having the ability to vary the current guidelines. Any revisions to the current guidelines must be done in accordance with the Rules Consultation Procedures and the NTP must have regard to the views of JPBs. Furthermore the JPBs should retain the ability to make recommendations to AEMO on the draft test programs.

#### **6.2.5 Basslink Commissioning Report**

Under Clauses 5.2.3 (h1) to (h3) of the Rules, the IRPC was required to advise NEMMCO of requirements for Basslink connection. In the course of providing such advice, the IPRC was required to do a technical review of the proposed interconnector and publish a report.

As this function has been completed, this clause is now redundant and should be deleted from the Rules.

#### **6.2.6 Parameter Settings Disputes Resolution**

Before the commissioning of new or replacement equipment by either load or generator, the connection participant and network service provider must agree on the parameter settings if that equipment is reasonably expected to affect the power

system. If both parties cannot reach agreement then under clause 5.8.3 (d), the matter is referred to IRPC to make a ruling.<sup>27</sup>

This function will be transferred to the NTP under the new arrangements who will be required to have regard to the views of the JPBs in reaching a decision on parameter setting disputes.

### **6.2.7 Working Groups**

To assist in undertaking its role and co-coordinating inter-network planning, the IRPC has established a series of working groups (see Box 6.1). Such working groups act as a forum for transmission planners and NEMMCO to discuss and agree upon common methodologies and approaches.

Such working groups provide a source of technical expertise and should continue under the new arrangements. The Commission would expect that AEMO would establish and maintain such groups to advise and support it in undertaking its functions. However codifying such working groups in the Rules and placing an obligation on market participants to actively engage in such working groups is likely to be counter productive. If a market participant is unwillingly made part of a working group that participant is unlikely to cooperate with or usefully contribute to that group. Working groups, which maintain active participant involvement through common interest, will be more effective.

### **6.3 Inter-Regional Projects**

There may be a perception that the IRPC has wider responsibilities regarding inter-regional augmentations. Although the IRPC acts as a forum for the JPBs to discuss such projects, the Commission notes that under the Rules the IRPC does not have any formal function regarding the planning of cross-border projects.

The possibility of the NTP being assigned a more activist role in relation to the planning of such projects, through, for example, acting as a co-ordinator or monitor, was raised in the NTP Issues Paper. However it is not clear what benefits such additional involvement would deliver, especially as no evidence has been put forward to demonstrate that TNSPs cannot effectively work together on inter-regional projects.. Therefore the Commission recommends against tasking the NTP with an activist role in regard to inter-regional projects and notes that NTP will provide information and analysis on potential cross border projects through both the NTNDP and its submissions to RIT assessments.

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<sup>27</sup> IRPC decision to be given within 20 business days and the majority decision of IRPC must be final.

### **Box 6.1: IRPC Working Groups**

1. **Market Simulation Working Group (MSWG):** The MSWG provides advice on matters relating to market simulations. It also contributes to the ongoing development of market simulation skills and expertise as well as the improvement of tools and techniques.
2. **Plant Modelling Working Group (PMWG) :** The PMWG is a technical advisory group to the IRPC. The group provides advice on the modelling techniques to be used by TNSPs. It provides technical guidelines for a consistent approach to be used for limit equations. It also is responsible for the transfer of each TNSP's system model. The members consist primarily of technical experts from the jurisdictional planning bodies. The IRPC may also invite any other party that may have an interest, or may make a contribution to a particular project.
3. **Flow Path Working Group (FPWG) :** The FPWG contributes to coordination of planning activities in the NEM through contributions to and feedback on the ANTS.
4. **Load Forecasting Reference Group (LFRG):** The LFRG is responsible for ensuring that the Energy and Maximum Demand Projections in the SOO (and Annual Planning Reports) are on a consistent basis.
5. **Test Working Group:** The Test Working Group provides advice to the IRPC on internetwork tests and assists the test co-ordinator in conducting these tests.

## **6.4 Summary**

Table 6.1 provides a summary of the Commission's recommendations regarding the incorporation of the current functions performed by the IRPC within the new arrangements.

**Table 6.1: IRPC Functions under NTP Arrangements**

<b>Function</b>	<b>Clause</b>	<b>Recommendation</b>
To provide assistance to NEMMCO on the SOO	5.6.3 (a) (1) and 3.13.3(s)	Each JPBs will be required to give assistance to NTP
To provide assistance to NEMMCO on the ANTS	5.6.3 (a) (2)	The NTNDP replaces the ANTS
Material Inter Network Impact Criteria	5.6.3 (a) (3) and (i)	Current IRPC guidelines retained. The NTP has responsibility for amending current guidelines.
Publish Technical Augmentation Reports for Material Inter-Network Impact Augmentation	5.6.3 (a) (4) and (j)	Responsibility to publish reports transferred to the NTP.
To develop and publish reliability augmentation criteria.	5.6.3 (a) (5) and (l)	To remove requirement to publish reliability augmentation from the Rules. AER has the ability to provide further guidance in guidelines.
To specify the arrangements for inter-network tests	5.7.7 (k) and (o)	Existing guidelines may be varied by NTP through Rules consultation procedures and have regard to views of JPBs. Each JPB have the ability to make recommendations to NEMMCO on draft test programs.
To advise NEMMCO of the requirements for Basslink connection	5.2.3 (h1) to (h3)	Clause deleted from the Rules
To make a resolution ruling regarding a dispute relating to power system parameter settings	5.8.3 (d)	Responsibility transferred to the NTP. The NTP shall have regard to the views of JPBs in reaching a decision on such disputes.

## **7 The role of the NTP and RIT-T in the National Electricity Market's regulatory and market design**

This chapter describes how the NTP and RIT-T relate to the wider regulatory and market architecture of the NEM. It sets out the main elements of the regulatory and market design for transmission and the wholesale market, and identifies the main areas of likely impact and influence of the NTP and the RIT-T.

A tightening supply and demand balance, and the likelihood of continuing growing demand, means that significant new investment in generation capacity and network infrastructure will be needed. Policy responses to climate change, including an Emissions Trading Scheme (ETS) will have a significant, but uncertain, impact on the underlying economics of generation investment decisions – and may also influence the operation of existing generation capacity, including decisions to operate or close.

Co-optimisation of generation and transmission in this environment is a challenge. The NTP and the RIT will improve the information base and process of scrutiny for many of these investment decisions, which in turn will make efficient outcomes more likely. The role of the NTP in particular, in considering and planning for a number of different long term scenarios, has the potential to add significant value to the NEM. Other changes may also be required, however, to ensure that the market architecture and rules continue to promote efficient outcomes for consumers. An understanding of how the component parts of the market architecture, including the NTP and the RIT-T, relate to each other and interact is key to understanding and assessing the need for further change.

### **7.1 Framework for Transmission**

This section describes the framework for transmission regulation in the NEM, and discusses how the NTP and the RIT-T will impact or influence this framework. It discusses in turn transmission investment planning, the setting of revenue allowances for transmission companies, and the methods of charging for transmission.

#### **7.1.1 Investment planning**

The responsibility for planning transmission investment in the NEM rests with TNSPs and JPBs. These organisations are responsible for network planning in specified geographical areas and are required to plan to certain specified standards, e.g. related to reliability of supply under credible network scenarios, such as the loss of a transmission line. The framework of planning across the jurisdictions of the NEM is currently under review by the Commission. In particular, the Commission is consulting, through the Reliability Panel, on establishing a new nationally consistent framework for reliability planning. This has the potential to improve consistency between investment planning across jurisdictions.

As discussed in Chapter 2, there is also a ‘safety net’ in place to address investment planning failure by TNSPs. This is the Last Resort Planning Power (LRPP), and provides for the AEMC to direct a TNSP to undertake a regulatory test.

The NTP and RIT-T are focused directly on strengthening the processes under which transmission investment decisions are made. This is therefore the area of activity in the NEM most impacted by the NTP and RIT-T. The impact is, however, through the publication of information which TNSPs, and market participants, can use for investment purposes.

While TNSPs will continue to be accountable for investment decisions, the NTP through development of the NTNDP will be able to contribute to investment planning by providing a more nationally integrated and long term perspective on transmission requirements, supported in particular by deep and comprehensive scenario planning. This addition to the current regulatory arrangements takes on considerable importance in the context of tightening supply and demand balance and the uncertain impacts of climate change policies, such as the 2020 Mandatory Renewable Energy target (MRET 2020) and foreshadowed Emissions Trading Regime (ETS), on the development of the transmission network and power system more generally.

The new RIT-T amalgamates reliability and market benefits and thereby supports an integrated assessment of costs and benefits for investment proposal put forward by TNSPs. A more streamlined process for resolving disputes will also be introduced under the new national planning arrangements. These measures will help ensure that any new investment in the network maximises benefits to the NEM while at the same time meeting reliability standards.

The requirement for broader and deeper calculation of market benefits under the RIT-T will strengthen incentives for TNSPs to assess and undertake the considerable transmission investment likely to be necessary for connecting significant volumes of low emissions and renewable generation capacity in the medium to long term, as policy measures such as MRET 2020 and ETS begin to take effect.

### **7.1.2 Revenue Allowances**

TNSPs regulated revenues are determined every five years by the AER, consistent with principles and process defined in the Rules. The current framework for transmission revenue resets, which was put in place in 2006 following a review by the AEMC, has the following characteristics:

- Base allowance – set to recover the costs over a five year period of existing assets, capital expenditure and operation and maintenance, including a reasonable return on capital employed.
- Contingent allowance – an allowance for capital expenditure required for specific large projects triggered by particular events.

- System service incentive – an allowance, between 1 and 5 per cent of regulated revenue, which can be varied depending on network performance of the TNSP and focused on ensuring network performance is maximised at times when the market most needs it.

The revenue allowances are set *ex ante* and there is a financial incentive for each TNSP to beat the costs implicit in setting the revenue allowances. TNSPs are rewarded for out performance and penalised for under performance relative to the capped revenue allowance. At the end of each revenue re-set period the revenue allowances are rolled forward based on the value of actual (as opposed to forecast) capital expenditure. A TNSP does not, therefore, retain cost efficiencies (or over-runs) indefinitely. The efficiency incentive for capital expenditure includes both depreciation and the cost of capital in the calculation of the associated rewards and penalties, with the aim of reducing the incentive for inefficient profiling of capital expenditure over the regulatory period.

The NTP and the process of the RIT-T will complement the revenue cap efficiency incentives above. First, the NTP will have the ability to make submissions to the AER and RIT-T consultations. Second, the improved information in the NTNDP will be useful to the AER and TNSPs as a reference point in developing and assessing forecasts of capital expenditure. This will be formalised by requiring TNSPs in making submissions to the AER to make reference to and explain differences between their forecast of capital expenditure and the NTNDP.

The capital expenditure efficiency incentives should also complement the development of the NTNDP. A key input into the NTNDP is the actual and proposed investments of TNSPs. Therefore, to the extent the revenue cap incentives improve the efficiency of TNSPs actual investment proposals this should enhance the quality of the information in the NTNDP, and ensures it represents as far as practicable efficient network development.

The NTNDP may also provide an important interaction with the contingent projects mechanism. The annual review cycle of the NTNDP could provide early indication of possible contingent projects that might arise during a TNSPs regulatory cap period, which may contribute to streamlining the approval process for such projects. This should be of considerable value in an investment environment of substantial uncertainty as to the future timing, location and quantum of low emissions generation entry. This will clearly, in turn have significant implications for future development of the network.

The RIT-T will also have a number of direct and indirect impacts on the process of setting revenue allowances for transmission companies. First, it will represent a body of evidence (which has been subject to public consultation) on the relative costs and benefits of different options for addressing transmission issues efficiently. This information is relevant to the AER in making determinations on efficient levels of forecast capital expenditure. This is most directly relevant in circumstances where the specific project being subject to the RIT-T is also a component part of a revenue reset proposal for capital expenditure. Second, and more generally, the presence of the RIT-T as a more rigorous process designed in part to reduce the informational asymmetry between TNSPs and other stakeholders might influence the capital expenditure forecasts provided by TNSP to the AER.

### **7.1.3 Transmission Planning**

A TNSP is responsible for determining how it recovers its allowed revenue, subject to compliance with the principles and process specified in the Rules. This framework was revised in 2006 following a Review by the Commission.

In the 2006 Review the Commission confirmed the current approach to transmission pricing, which reflects a "shallow charging" policy for generators. The sunk and fixed costs of transmission are recovered from consumers with a mix of 'postage stamp' and locational charges, while generators pay for connection costs (those costs specifically required to connect the generator to the network). Generators may negotiate to pay for deeper reinforcement to the network where such investment is required to facilitate a desired enhanced level of transmission service for that generator, or if without that reinforcement, the generator would be in breach of its technical standards. While generators do not pay locational use-of-system charges, the pricing framework does allow for transmission rebates and discounts in certain circumstances which will influence locational decisions.

The NTP will need to take account of how generators and loads are likely to respond to current and future transmission prices in providing a credible perspective on the future generator behaviour, and therefore the configuration and evolution of the network.

There is also an important interaction between the RIT-T and the transmission pricing framework. Any transmission investment which is required to connect generation to the network will only pass the RIT-T if it has net market benefits, or represents the most efficient way to meet reliability planning standards. Generators therefore will need to factor the cost of transmission into their locational decisions. Seeking connection at a point on the network which is congested, and for which the RIT-T case for augmentation cannot be made, will result in higher costs or more despatch risk for the generator. This is a form of locational signal which should, in conjunction with the transmission pricing framework, promote efficient decision-making.

## **7.2 The Wholesale Market**

The wholesale market in the NEM is a gross pool design. All electricity must be traded via the pool. The market is dispatched by NEMMCO every five minutes, and settled every 30 minutes. Market participants also enter into contracts derived from outcomes in the wholesale spot market, e.g. for the supply of volume of electricity at a price referenced to one of the regional prices in the wholesale spot market.

### **7.2.1 Wholesale market price signals and investment decisions**

There are a multiplicity of factors that influence investment decisions, and their location, including for example fuel costs, access to fuel, access to transmission, transmission charging and environmental and other planning consents. A further key factor is expectations regarding wholesale market dispatch and pricing

outcomes, and in particular how they are influenced by network limitations or congestion on the network.

Dispatch and pricing outcomes themselves are influenced over time by investment decisions by market participants, e.g. to invest in new generating capacity, or to retire existing capacity. Economic signals derived from the wholesale market will have an influence over these investment decisions. Market participants will be interested in economic signals relating to 'volume risk' and 'price risk' in the spot market generated through network limitations and congestion on the network, which is priced between regions although not within regions under the NEM market design.

Volume risk is the risk of not knowing the volume of electricity you will be dispatched by the system operator to produce in any given 5-minute despatch interval. Price risk (or 'basis risk') is the risk of being settled at a price that is different to the price you have contracted at. This is a particular issue when the contract price is referenced to a price in a different region, e.g. because the customer you are selling to is located in a different region. These risks will influence the location and investment decisions of market participants and such risks would increase in magnitude if congestion on the network increases.

While congestion on the network has not been a significant source of inefficiency in NEM to date, whether this remains the case will depend on the effectiveness of the transmission regulatory investment framework, and the combined interaction of the NTNDP, the RIT-T and LRPP. This is likely to be of increasing relevance, and more challenging, in the context of significant new investment and change in the location and mix of generation.

Large changes in the location and mix of generation, and therefore the pattern of power flows across the transmission network, may require significant reinforcement to the existing transmission system. Future entry of new generation may also require extension of the network to remote locations to accommodate access to renewable resources. The ability of the transmission regulatory arrangements to be able to deal with these challenges will therefore be of considerable importance.

In this context the NTP and RIT-T should be able to make an important contribution. Information contained within the NTNDP, such as current and future congestion, transmission development strategies under a range of scenarios, and the information generated under the new RIT-T consultation process, should enhance the ability of TNSPs to identify and respond to transmission issues. In addition such information should improve the ability of investors and market participants to assess the risks of transmission access and decide on where and when to invest in a carbon constrained world.

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