

Australian Energy Market Commission

National Transmission Planning Arrangements

Issues Paper
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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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Foreword

The Australian Energy Markets Commission (“The Commission”) is pleased to publish this consultation document seeking views from stakeholders on a range of issues associated with establishing a new national transmission planning function for the National Electricity Market (NEM).

The Commission has been directed by the Ministerial Council for Energy (MCE) to conduct a review (“The Review”) into the development of a detailed implementation plan for new national electricity transmission planning arrangements. The direction reflects the Council of Australian Governments’ response to the Final Report of the Energy Reform Implementation Group (ERIG). The direction requires the Commission to complete the Review and submit a Final Report to the MCE by 30 June 2008. This Issues Paper is the second of three consultation documents that the Commission plan to publish before submitting its Final Report.

The Review must provide for the establishment of a National Transmission Planner (NTP). The NTP will be located in the newly created Australian Energy Market Operator (AEMO) and, at a minimum, will publish an annual National Transmission Network Development Plan (NTNDP). The Commission is also required, as part of the review, to develop a new network planning and consultation process to replace the current Regulatory Test. A key purpose of this Issues Paper is to seek views on how the specific functions of the NTP should be defined. The Commission would particularly welcome submissions on the costs and benefits associated with the NTP taking on more (or less) detailed functions in respect of transmission planning. Resolution of this question will provide a basis for then developing a detailed implementation plan.

Submissions to the first consultation document, the Commission’s August 2007 Scoping Paper, revealed a wide range of views among stakeholder on what functions the NTP should undertake and what information the NTNDP should contain. The Commission has analysed these submissions, undertaken analysis of how arrangements operate in other liberalised electricity markets, and has developed a list of more specific issues for further consultation.

To assist in the preparation of submissions, the Commission has identified four illustrative models for the institutional design of the NTP which reflect the range of views expressed through submissions to the Scoping Paper. The illustrative models are points on a continuum of possible design options which are intended to provide points of reference for submissions. They do not limit consideration of other options. Nor do they reflect the Commission’s views as to the relative merits of any particular model.

The Issues Paper also identifies a range of issues for stakeholder comment regarding the design of appropriate governance arrangements for the NTP, while noting that the appropriate model of governance will depend on the functions undertaken by the NTP.

The Commission welcomes submissions from stakeholders by 21 December 2007 on the specific issues highlighted throughout the document. In particular, the

Commission would welcome submissions on the scope of the functions to be performed by the NTP and the institutional design and governance arrangements that should apply.

John Tamblyn
Chairman

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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	Regulatory Investment Test
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

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1 Introduction

On 3 July 2007 the Ministerial Council on Energy (MCE) directed the Australian Energy Market Commission (Commission), under Section 41 of the National Electricity Law to conduct a review into the development of a detailed implementation plan for a national electricity transmission planning function (Review). The MCE's Terms of Reference are provided as an attachment to this Issue Paper.

The direction requires the establishment, within a newly-created Australian Energy Market Operator (AEMO), of a National Transmission Planner (NTP) which will be required to publish an annual National Transmission Network Development Plan (NTNDP). The Commission is also required to develop a revised network planning and consultation process to replace the current Regulatory Test. The direction requires the Commission to complete the Review and submit a Final Report to the MCE by 30 June 2008.

In August 2007 the Commission commenced the Review by publishing a Scoping Paper. This Issues Paper represents the next stage in the Commission's process of public consultation. The purpose of the document is to identify and seek views on a range of issues that require resolution before a detailed implementation plan can be produced. At this stage in the consultation process, in the light of submissions to the Scoping Paper, the focus is on specifying the detailed functions that shall be undertaken by the NTP and, in particular, what the scope and coverage of the NTNDP should be.

This Review is part of a series of reforms agreed to by the Council of Australia Governments (COAG) on 13 April 2007 in response to the Final Report of the Energy Reform Implementation Group (ERIG). The other reforms which are also part of the COAG response to ERIG recommendations (COAG Communiqué) have implications for this Review and their relevance and interaction is also covered in this Issues Paper.

The MCE's direction also tasks the Commission to conduct a review into the electricity transmission network reliability standards, with a view to develop a consistent national framework for NEM reliability and security. The Commission has requested the Reliability Panel to consider and advise on this issue. The Transmission Network Standards Review will be completed by 30 September 2008.

1.1 Background

1.1.1 ERIG Report

COAG established an Energy Reform Implementation Group (ERIG) in February 2006 to report on reforms to achieve a fully national transmission grid, measures to address structural issues affecting the competitiveness and efficiency of the electricity sector, and measures to ensure transparent and effective energy financial markets. ERIG's Final Report was published in January 2007.

In regard to developing an efficient national transmission grid, ERIG concluded that there is a need for a more national approach to transmission planning and investment. It listed the following as contributing to a regionalised planning framework and a lack of national focus:¹

- Planning and delivery of transmission services are geographically fragmented and there is a lack of accountability for national grid planning, development and operation;
- State government ownership of TNSPs may dilute a national focus, particularly where governments also own generation assets;
- Network pricing arrangements do not recognise the inter-regional nature of costs and benefits associated with proposed augmentations;
- The specification of different network planning standards by state governments or state institutions across the electricity system;
- The form and application of the regulatory test which treats network planning and development to meet customer reliability standards as separate from planning to augment the network to deliver market benefits and which embodies a short term focus on specific assets or projects; and
- The sequential nature of the revenue cap determination process which weakens the regulator's ability to determine an optimal system wide investment program.

ERIG recommended that a new national planning function be established consistent with the accountability for decision making, performance and investment remaining with TNSP and introduction of a revised Project Assessment and Consultation process on all major augmentations to replace the current Regulatory Test.

1.1.2 The MCE's direction to the Commission

The direction provided in its letter of 3 July 2007 by the MCE to the Commission for the Review requires the delivery of 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 the scope of the Commission's 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;
- A revised network planning and consultation process to replace the current 'Regulatory Test' with an assessment process that amalgamates the reliability and

¹ ERIG Final Report, Energy Reform, The Way Forward for Australia, p.176.

market benefits criteria of the current Test and expand the definition of market benefits to include national benefits; and

- Consideration of the case for simultaneous review and determination of TNSP revenue caps, in place of the current sequential reviews to further reinforce the national character of planning arrangements.

The MCE direction to the Commission stipulates a timetable for the Review. Following publication of an Issues Paper, the Commission shall hold at least one public forum. It shall then publish for consultation a Draft Report by 28 February 2008, and a Final Report by 30 June 2008.

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
- An accountability for transmission investment, operation and performance should remain with transmission service providers.

1.1.3 Transfer of State Transmission planning roles to AEMO

The electricity transmission planning function in Victoria is undertaken currently by VENCORP. The Victorian Government has expressed a willingness for the functions of VENCORP to be transferred in full to the AEMO.² The Commission understands that no decision has been taken by the South Australian Government in relation to any possible incorporation of the functions of the Electricity Supply Industry Planning Council (ESIPC) in South Australia into the AEMO.

1.2 Commission's Approach to the Review

The Terms of Reference for the Review require the Commission to undertake a specific task, i.e. to develop a detailed implementation plan for a national transmission planning function. The Terms of Reference provide a degree of

² Public Consultation Paper on Governance Arrangements for the Proposed Australian Energy Market Operator, October 2007, prepared by the Market Operator Working Group, p.11.

prescription on the required characteristics of a national transmission planning function. The important first task for the Review is therefore to develop a detailed specification for the functions to be undertaken by the NTP. Submissions to the Scoping Paper demonstrate a wide range of views from stakeholders on this question. The second stage of the Review is to develop a plan for implementing the chosen specification, including any changes that might be required to the National Electricity Law (NEL) and Rules (NER).

The Commission will seek to determine the question of how the functions of the NTP should be specified through consideration of evidence and analysis against a set of criteria. In formulating its determination the Commission will have regard to submissions, bilateral discussions with stakeholders, and analysis undertaken by or on behalf of the Commission.

Once the Commission has formed a more developed position on the design of the national transmission planning function, it plans to establish an implementation working group made up of market participants. The purpose of this group would be to advise the Commission on implementation and transition issues, and support the development of a detailed implementation plan.

In undertaking all of its functions, including this Review, the Commission is required, by the NEL, to have regard to the National Electricity Market (NEM) objective. The NEM objective 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 NEM objective relates to efficiency. The Commission interprets this widely, as encompassing productive, allocative and dynamic efficiency. The Commission has also taken the view that the scope of the NEM objective covers the means by which regulatory arrangements operate as well as their intended ends. Hence, the Commission seeks to apply the principles of good regulatory design and practice in order to promote stability and predictability of the regulatory framework, minimise operational interventions in the market, and promote transparency.

The Commission considers that the tasks of developing a detailed implementation plan for the NTP and reforming the Regulatory Test relate primarily to the promotion of dynamic efficiency. However, efficiency in regulatory design and practice is also a significant consideration. It is important that the reforms are likely to be robust over the longer term. Noting this, the Commission notes that COAG is committed to reviewing the effectiveness of the national transmission planning arrangements after five years of operation.

The Commission therefore considers the following criteria to have particular relevance to the specific tasks required as part of this 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.

The Commission notes that this Review potentially affects a number of aspects of the current arrangements for the NEM, for example, the role of Inter Regional Planning Committee and the operation of the Last Resort Planning Power. The Commission notes the importance of delivering a coherent and consistent package of reforms that supports the efficiency of the market.

The assessment and resolution of issues against these criteria by the Commission will involve the evaluation of trade-offs between the different criteria. The Commission will evaluate any such trade offs objectively on the basis of the evidence. While the Commission is not tasked with analysing the materiality of the range of problems that might be impacted by the creation of an NTP, it is appropriate for the Commission to have regard to evidence on materiality in weighing up the net benefits of models which have different levels of implementation costs. The problems that might be addressed through the creation of an NTP are discussed in the ERIG Final Report, and relate to issues of co-ordination, lack of information to support efficient investment and the perceived regional bias in criteria used to assess transmission investment options.

There is the possibility that state planning functions will be transferred to AEMO. The Commission considers as separable the questions of (a) how the national planning function should be defined, and (b) whether AEMO takes on additional planning responsibilities in particular jurisdictions. It is axiomatic, in the Commission’s view, that the scope of the national planning function should not vary by jurisdiction. The role of the national planning function should be complementary to the role of state planning. This is not to preclude the possibility of the AEMO (and, potentially, the NTP) taking on additional functions in respect of individual jurisdictions. Rather it is to state that this is a different consideration to the specification of the core functions of the NTP.

The Commission will undertake extensive consultation with all relevant stakeholders throughout the review, including network planners and operators, generators and retailers, energy user representatives, regulators, market operators and policy advisers. It will publishes submissions and supporting information papers throughout the Review.

The Commission seeks views on:

- Its proposed approach to the Review and its decision making criteria; and
- The materiality of the problems being addressed in this Review.

1.3 Policy Context for the Review

Since 2005, there has been a series of policy reviews and Rule changes in relation to the provision of transmission services and the regulation of transmission companies. The following areas of Commission's work, some of which are cited explicitly in the Terms of Reference, would appear to be relevant in this regard:

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

More detailed information on each of these areas of work can be found on the Commission's website.

1.4 Structure of the Issues Paper

This Issues Paper is structured as follows:

- **Chapter 2** provides the framework for the Review by providing a description of the transmission planning process and defining the role of transmission planning in the provision of transmission services. This Chapter also covers the current arrangements in the NEM, and international approaches.

The remaining chapters present the range of issues to be addressed for the Review:

- **Chapter 3** sets out for consultation the different issues relating to the national transmission planning arrangements;
- **Chapter 4** discusses those issues relating to the project assessment and consultation phase of transmission planning and deals with the tasks relating to the revisions to the Regulatory Test;
- **Chapter 5** covers the issues associated with the revenue and pricing framework for transmission investment and discusses the issue of aligning TNSP revenue determinations periods;
- **Chapter 6** discusses issues relating to the governance framework for the national transmission arrangements;
- **Chapter 7** discusses issues relating to the implementation of, and transition to, the new arrangements; and
- **Chapter 8** considers the complete package of reforms under this Review and presents some illustrative models to facilitate consultation.

1.5 Lodging Submissions

The Commission invites written submissions from interested parties in response to the Issues Paper by 5pm on 21 December, 2007. Submissions may be sent electronically or by mail in accordance with the following requirements.

1.5.1 Lodging a submission electronically

The submission must be sent by email to submissions@aemc.gov.au. The email must contain the phrase “National Transmission Planning Arrangements – Issues Paper” 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.

1.5.2 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 – Issues Paper”.

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 Context for the National Transmission Planning Review

This chapter provides a context and framework for considering and commenting on the issues raised in the subsequent chapters. It explains:

- The stages involved in transmission planning;
- The role of transmission planning in the provision of transmission services;
- Current NEM arrangements; and
- International Approaches to Transmission Planning.

2.1 Transmission planning stages

Figure 2.1 describes the series of individual generic stages involved for network planning.

A generic planning process starts with analysis of emerging limits in the transmission system in order to identify future capability needs. The determination of future capabilities is driven by the need to meet the defined network objectives or planning criteria. Such network objectives tend to be defined by governments or regulators. The identification of needs is also influenced by the methodology employed by the transmission operator. The planning process will involve a review of load and generation across the network and include detailed load-flow analysis. The options to remove or relieve those limits are then developed and compared. The most economic option (or the least cost in the case of a reliability criterion) that fulfils the objectives and criteria is then determined.

Network investment is characterised by high sunk costs. To ensure that such investment is likely to maximise economic efficiency, it is necessary to evaluate the economics of all network investment decisions, having regard to the range of feasible alternative technologies, options and projects, and project timings, and to select the option that maximises efficiency. To do so requires a high level of consultation with market participants and providers of non-network solutions (e.g. demand response).

Following selection of the preferred solution to address the future need, the transmission operator will decide on how to implement the solution.

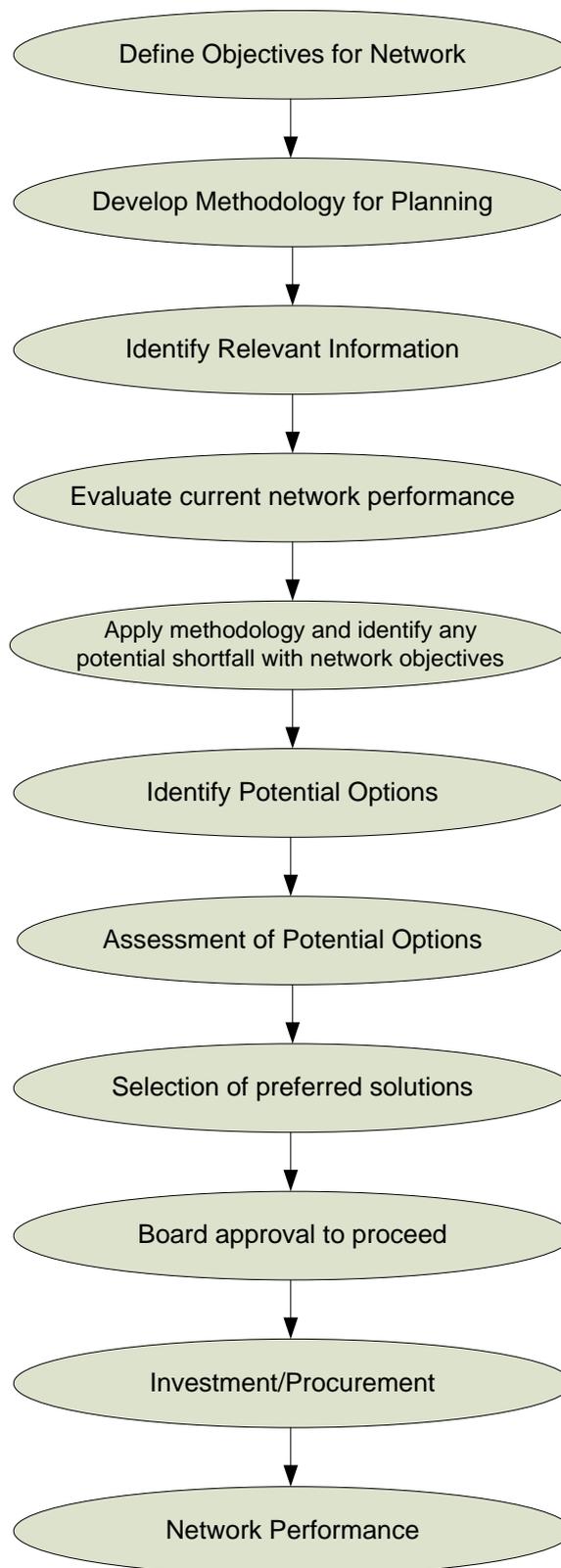
Aspects to the transmission planning stages that are relevant in considering different options for the national transmission planning function are that:

- Transmission planning is not a discrete activity. The decision to invest and the specification of the investment is developed over time, and can vary considerably, as new and more detailed information becomes available;
- The available information and methodology employed will drive the identification of future needs and possible solutions;

- The value of consultation in ensuring proper evaluation of potential options to address the future needs;
- Transmission planning requires considerable interaction over time with other parties, including DNSPs and major consumers;
- The outcome of desk-based transmission planning studies will be significantly influenced by other factors such as the availability of easements, environmental and planning consents, the transmission service provider's development program and work schedules, and the availability of equipment, project management resources and skilled labour;
- Economies of scale and scope and, in particular, the lumpiness of transmission investment, are such that it can be much more efficient to build in advance of demand; and
- The lead times for transmission investment are significantly longer than for generation or load.

A key theme for the Review is to determine the appropriate extent of the involvement of the National Transmission Planner along these stages outlined in figure 2.1.

Figure 2.1 Network Planning Stages

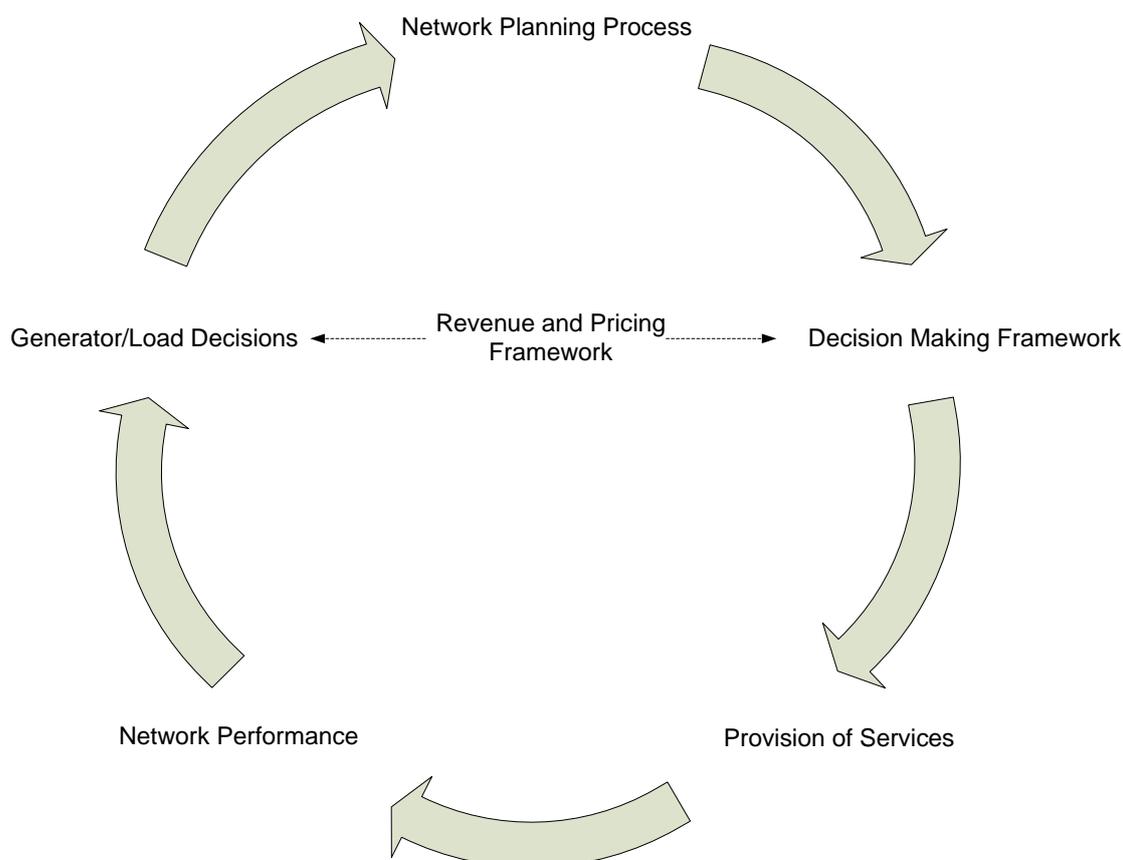


2.2 The role of transmission planning in the provision of transmission services

Figure 2.2 characterises the role of the network planning process in the provision of transmission network services. This shows that the network planning process is one activity in a broad cycle of processes. In implementing new planning arrangements, an appreciation of the inter-dependencies between the different activities is important to understand how reforms to the planning arrangements will contribute to more efficient provision of network services.

Transmission Operators' approaches to planning is driven by the need to maintain compliance with their regulatory and statutory obligations. Transmission planning arrangements are closely related to transmission revenue regulation. This is because the form of regulation applied to TNSPs in the NEM is a building-block, incentive-based regime, in which TNSPs are rewarded for making efficient capital investments through the provision of a regulated return. Without such incentives, TNSPs cannot be expected voluntarily to identify and develop augmentation options that could increase transmission capability and help reduce the incidence of congestion.

Figure 2.2 Provision of Network Services



2.3 Current NEM arrangements

To understand the issues associated with implementing a new national transmission planning process, it is useful to start with an appreciation of the current NEM arrangements and transmission planning process. This section provides a brief overview of the current framework. A more comprehensive description is provided in a supporting technical report prepared by Firecone which has been published by the Commission contemporaneously with this Issues Paper on behalf of the Commission³, and in the ERIG's Final Report.

The relationship between transmission planning and investment decision-making varies across jurisdictions:

- In New South Wales, Queensland and Tasmania, transmission planning is the responsibility of the transmission asset owner;

³ Firecone, Evolution of Transmission Planning Arrangements in Australia, October 2007. Available on AEMC website.

- In South Australia the Electricity Supply Industry Planning Council (ESIPC) is responsible for planning information provision with the asset owner retaining responsibility for investment decision-making; and
- In Victoria, VENCorp is responsible for transmission planning and the procurement of transmission network services. VENCorp conducts a tendering process to source some of these transmission services.

Different reliability standards apply in each jurisdiction both in form and in level. In New South Wales and Queensland the reliability standards are set in deterministic terms such as “N-1” style criteria. In Victoria VENCorp applies a probabilistic approach to network planning. A Value of Customer Reliability (VCR) is used as part of a cost benefit analysis of different options.

South Australia applies a method similar to the probabilistic approach for each connection point and then translates the results of this analysis into deterministic planning standards for the individual connection points.

2.3.1 Inter-Regional Planning Arrangements

The co-ordination of inter-regional planning issues is currently managed through the Inter-regional Planning Committee (IRPC). Further details on the IRPC are contained in Box 2.1

Box 2.1: Inter Regional Planning Committee

Pursuant to the NER the IRPC is established by NEMMCO. The IRPC consists of:

- A NEMMCO representative as convenor;
- A representative from an entity in each jurisdiction of the NEM with responsibility for transmission planning and nominated by the relevant Minister in that jurisdiction; and
- Such other persons that NEMMCO considers have the appropriate expertise to be a member of the IRPC.

Members of the IRPC must not take part in any decision or determination of the IRPC where the entity they represent has a material financial interest in the matter under consideration. Costs are shared between NEMMCO as convenor and all entities represented by its members on a basis agreed by the IRPC. NEMMCO have never appointed other members to the IRPC. The IRPC has the following obligations as set out in the NER:

1. Provide assistance to NEMMCO in connection with the preparation of the statement of opportunities (SOO) and the Annual National Transmission Statement (ANTS).
2. In relation to proposed transmission augmentations:
 - (a) Publish augmentation technical reports for proposed transmission augmentations upon request from a TNSP;
 - (b) Publish criteria for assessing whether a proposed transmission augmentation may have a material inter-network impact; and
 - (c) Publish criteria for assessing whether a proposed transmission augmentation is a reliability augmentation.
3. In relation to inter-network testing:
 - (a) Publish guidelines to determine when inter-network tests are required;
 - (b) Make recommendations to NEMMCO in relation to draft test programs; and
 - (c) Nominate an officer to co-ordinate inter-network tests.
4. In relation to control and protection settings for equipment:
 - (a) Resolution of disputes between an NSP and a registered participant in relation to parameter settings (clause 5.8.3(d)).
5. Provide advice to the AEMC in relation to the exercise of the last resort planning power.

2.3.2 Planning Documents

Under the NER all TNSPs are required to develop an Annual Planning Report (APR). The APR assesses the adequacy of the transmission network to meet load growth forecasts for that jurisdiction. It reviews committed augmentations and network developments and is intended to be a key step in the provision of an economically optimum level of transmission system capacity. In Victoria and South Australia VENCORP and ESIPC respectively produce the APR using, among other things, information provided by the relevant TNSPs.

The APR is the public statement of emerging network issues, their impact and potential solutions. The APR is the primary instrument through which the market is informed of these issues.

The Annual National Transmission Statement (ANTS) is prepared by NEMMCO and was first published in 2004. The ANTS provides a high-level integrated overview of the current state and potential future development of National Transmission Flow Paths (NTFPs) over the next ten years. The ANTS relies heavily on information from the APRs and from NEMMCO's Statement of Opportunities (SOO). The ANTS includes a review of forecast constraints on NTFPs and options for relieving those forecast constraints.

2.3.3 Project Assessment and Consultation

The Regulatory Test made by the AER in accordance with clauses 5.6.5A of the NER is the principal vehicle for transmission project assessment and consultation for the NEM. The Regulatory Test consists of a 'reliability limb' and a 'market benefits limb'.

The reliability limb is used by TNSPs for considering augmentations considered necessary to meet their obligations to maintain standards of customer reliability. An augmentation satisfies this limb if it represents the least cost option of meeting that standard when compared to a range of credible alternatives.

The market benefits limb is applied to other proposed network augmentations. A new network augmentation satisfies the market benefits limb of the Regulatory Test if it maximises the net present value of the market benefits having regard to alternative options timing and market development scenarios.

The net market benefits assessed refers to the total increase in surplus (both consumer and producer) and does not include the transfer of surplus between consumers and producers.

Proposals for a large network augmentation with capital costs greater than \$10 million must be taken through full consultation and assessment as prescribed under the NER and must satisfy one of the two limbs of the Regulatory Test before being constructed. Smaller augmentation projects must also pass the Test but do not generally require the full consultation process.

Regulatory Test assessments are generally much more rigorous and detailed than those conducted for the Annual Planning Reports. There is no routine external

validation of the results of a Regulatory Test assessment, although a Regulatory Test can be referred to the AER under the NER.

2.4 International Approaches to Transmission Planning

To assist it in this Review, the Commission engaged The Brattle Group (Brattle) to provide a report describing transmission planning arrangements in other electricity wholesale markets with similar characteristics to the NEM (i.e. liberalised markets involving multiple transmission companies).⁴ Brattle's report outlines the arrangements in North America, Nordpool, Great Britain and Continental Europe and has particular focus on how different planning arrangements evaluate proposed investments (in particular with regard to the distinction between "reliability" and "economic" investments), and also on how different overseas markets promote co-ordinated development of a network divided between different multiple transmission owners.

In the markets reviewed, the system operator has certain responsibilities with respect to transmission planning, one of which involves developing a network plan. All planners produce forecasts of load and generation growth, using some combination of aggregate-level/macroeconomic forecasts (particularly for longer time horizons) and detailed projections aggregated from sources such as connection requests and inquiries, and customer surveys. Some planners make more use of market signals information when making the plan, such as connection requests, proportion of time that a link is congested, and differences in spot and forward prices across congested borders.

There are significant differences in the approaches adopted overseas across the markets examined. For example, whether the strategic plan is itself a concrete investment plan (identifying specific lines), or is closer to an assessment of necessary transmission capabilities. In Great Britain (GB), for example, the role of the GB System Operator (SO) is essentially limited to producing the forecasts and power flow modeling described above. The individual Transmission Owners (TOs) then produce investment plans, and the SO checks them for consistency with its overall planning assumptions and flow modeling. In Alberta the planning process resides very much with the SO, and individual TOs are obliged to produce their own proposals in concordance with the SO view.

Another difference between the overseas markets is the extent to which the transmission plan is mandatory. At one extreme, as in Nordpool, the plan can be entirely indicative and optional. At the other extreme, the national planner can, as in Alberta, have the right to compel investment by the TO, or, as in California, tender for a third party to carry out the work.

With respect to evaluating transmission investments, most international markets maintain the distinction between reliability and economic investments. With respect to valuation of economic market benefits there is a major difference between the

⁴ Brattle Group, International Review of Transmission Planning Arrangements, October 2007. Available on the AEMC website.

majority of overseas approaches where projects must be shown to satisfy a cost-benefit test, and a minority of systems as in Alberta where there is a generic policy to build sufficient infrastructure to avoid persistent congestion. When cost-benefit tests are applied, there is a range of approaches taken to the measurement of benefits. Most systems follow a “traditional” approach that models only savings in production costs. However, Brattle noted that it is increasingly recognised that this approach underestimates the benefits of transmission upgrades, which can also include increased reliability, enhanced competition, lower generation investment costs and other factors. The recent adoption in California of a relatively sophisticated cost-benefit framework was noted.

International experience highlights a number of factors that appear to be considered central to achieving co-coordinated investment planning among multiple TOs. First is the creation of institutions with the appropriate remit and technical expertise to coordinate a planning process effectively. Here opinions differ as to whether co-operation through this institution should be voluntary or mandatory. Second is the issue of incentives for co-operation and the existence of cost allocation mechanisms that allow for transfers between TOs, so as to minimise the creation of “winners and losers”. Most of the systems reviewed by Brattle have, or in the process of evolving, some mechanism which allows for sharing of costs and benefits of transmission projects across multiple transmission owners.

This Issues Paper draws on the descriptions in the Brattle’s Report in more detail when discussing the respective issues.

3 The Functions of the National Transmission Planner

The national transmission planning function encompasses the establishment of a National Transmission Planner (NTP), whose primary responsibility will be the preparation and publication of a national transmission network development plan (NTNDP/National Plan). This chapter identifies issues associated with specifying the roles and responsibilities of the NTP and the content of the NTNDP.

The direction to the Commission from the MCE provides some prescription on the required characteristics of a national planning function. However, as illustrated through the submissions to the Scoping Paper, there is a spectrum of possible specifications consistent, potentially, with the MCE's direction. The key issues emerging from submissions that need to be resolved are:

- The appropriate boundary between national planning and local planning ;
- The breadth (in terms of scenarios) and depth (in terms of level of detail on investment options or solutions) included in the NTNDP; and
- The areas where the NTNDP, and the wider function that might be undertaken by the NTP, can add most value to the planning process.

The criteria the Commission proposes to adopt in considering the evidence in respect of each of these issues, and ultimately to conclude on the specification of functions for the NTP to and its detailed implementation plan, are set out in Chapter 1. This framework provides for the Commission to weigh up costs and benefits of different options, and in so doing requires the Commission to have regard to any evidence on the materiality of different problems that might be addressed by allocating particular function to the NTP. The Commission consider there to be relatively little evidence available on materiality, and would therefore welcome submissions on this issue.

3.1 Boundary between National and Local Planning

The MCE direction to the Commission states that “the new arrangements will be designed to provide an appropriate balance between the delivery of a co-ordinated and efficient national transmission grid and local and regional reliability and planning requirements.” This distinction between ‘national’ and ‘regional’ planning provides clear guidance that the NTNDP will not cover all transmission planning issues, but rather a sub-set of planning issues relating to elements of the network which have national significance. Hence this requires a boundary between national and regional planning to be clearly defined for the new planning arrangements.

3.1.1 Submissions

Powerlink stated that the National Plan should only focus on flow-paths which have a real and material national (not regional) impact and commented that the current

ANTS flow paths are not based upon sound principles and analysis.⁵ It commented that NTP should not get involved in regional planning issues which are catered for by the regional mandated reliability standards.⁶ ETNOF agreed with Powerlink and advised that the Review include a review of the definition of national transmission flow paths to more closely align these with COAG position of strategic from a national perspective.⁷

The AER submission stated that at a minimum the National Plan must consider the scope of projects related to the current National Transmission Flow Paths (NTFP) and not simply augmentation of interconnection between regions. It also commented that there could be additional benefits by extending the scope beyond NTFPs.⁸ VENCORP considered that it is artificial, and would be counter-productive, to attempt to divide the national transmission network into "national" and "local" parts.⁹ It advised that the NTP must consider the network as one, not as a series of interconnected networks.¹⁰ The Group's submission stated that any aspect of the network that has, or can be reasonably expected to have, an influence on the operation of the NEM should be considered under the National Plan.¹¹

EUAA stated that the National Plan should describe and update a Planning Boundary, which identifies the geographic border in which any changes to the network will create significant market benefits or impediments.¹² This would focus the planning on improving the value of the whole NEM Transmission System.¹³

3.1.2 Discussion

The Commission's interpretation of the MCE direction suggests that of the NTP be limited to a sub-set of planning issues and hence the NTP should not have responsibility over all planning. Further, whatever definition is adopted, it must be clear and unambiguous in its allocation of responsibilities.

A focus on multi-region or cross border impacts might fit with COAG's requirements that the focus for the NTNDP is to be on national planning rather than localised planning. However, such a concept would need to be given operational effect. One possible option is to define a planning issue as having 'national' relevance if the prospective investment solution is likely to affect constraints (used by NEMMCO in its dispatch of the market) involving interconnector flows. A variant of this

⁵ Powerlink Submission, p.2

⁶ Powerlink Submission, p.2

⁷ Energy Transmission Network Owners Forum (ETNOF) Submission, p.6

⁸ Australian Energy Regulator (AER) Submission, p.4

⁹ VENCORP, p.15

¹⁰ VENCORP, p.15

¹¹ Loy Yang marketing Management Company Pty Ltd, AGL Hydro Pty Ltd, International Power Australia, TRUenergy Pty Ltd, Flinders power, Snowy hydro (The Group) Submission, p.10

¹² Energy Users Association of Australia (EUAA) Submission, p.4

¹³ EUAA Submission, p.4

approach would be to attach a materiality threshold to the involvement of interconnector flows in a constraint.

Another approach could be for the NTNDP to investigate projects which could affect capability of the current defined National Transmission Flow Paths (NTFP).¹⁴ The current definition of NTFP requires a degree of subjective interpretation and the Commission questions as to whether it is amenable to objective application in clearly defining the scope of the NTP's functions. The Commission is interested in the opinions of market participants on the current definition.

One potential difficulty with this approach of having a prescriptive definition of national impacts is that it is relatively static. Investment in one part of the network may only have localised impacts on power flows at the time that they are developed, but subsequent developments might change this. An example is the QNI interconnection which connects the New South Wales and Queensland networks. Flows across this inter-connector have been strongly affected by intra-regional investments in northern NSW and southern Queensland.

The Commission is interested in views on:

- Whether the Commission is correct to assume that the scope of the NTP must be limited to a sub-set of 'national' planning issues if it is to be consistent with the MCE's direction;
- Whether a definition of 'national' that limits NTP scope to planning issues which relate to constraints which (materially) involve interconnector flows is practical and workable?
- Whether the current definition of National Transmission Flow Paths should be used in defining the scope of the NTP functions?
- What other practical options exist for clearly and unambiguously defining the scope of planning issues within the scope of the NTP.

3.2 Range of Scenarios and level of detail in the National Plan

A second key issue regarding the design of the new arrangements is the question of how specific and detailed the NTNDP should be. This relates to the required content of the plan – and, hence, the resources that the NTP might need to deliver the NTNDP. Should the plan include high level investment options, detailed identification of options, or identification of specific investment solutions? The MCE direction does not prescribe the answer to these questions, with therefore a number of possible design options being consistent with the MCE direction.

¹⁴ National Transmission Flow Paths are defined in clause 5.6.5 of NER. It states "that portion of a transmission network or transmission networks used to transport significant amounts of electricity between generation and load centres". NEMMCO has interpreted this as a flow path that joins major generation or load centres and which is expected to experience significant congestion across the next ten years simulation period, and is capable of being modelled.

A related issue to this question is the range of scenarios included in the NTNDP. Should the National Plan rely on a single scenario for generation over the future period or whether there will be versions of the Plan to reflect a range of plausible generation development scenarios. Also in developing such scenarios to what extent should the NTP have regard to wider issues such as government policy on climate change, and the possible introduction of carbon pricing.

3.2.1 Submissions

EUAA commented that the Plan should identify suitable supply scenarios that represent a possible range of futures in conjunction with stakeholders.¹⁵ AER considered that the Plan needs to be sufficiently detailed to allow an understanding of the drivers for networks investments and assessment of the merits of individual augmentation project options proposed by TNSPs.¹⁶

NEMMCO considered that the COAG Response allows a broader role than just information provision and could develop arrangements which guide network investment decisions and provide signals for efficient generation investment while maintaining TNSP accountability.¹⁷ NEMMCO stated that to deliver a meaningful result the conceptual augmentations studied should complement the augmentations required to deliver mandated obligations.¹⁸

VENCorp stated that the national planning function must have the necessary information and resources to undertake its own independent network studies.¹⁹ It commented that a degree of duplication will be useful in order TNSPs planning decisions to be open to public scrutiny.²⁰ Alternatively, EUAA suggested that the NTP should focus only on any planning or co-ordination gaps rather than attempt to shadow all TNSPs activities and decisions.²¹ It should take the TNSPs identified future augmentations and assess how these augmentations fit into and can be best utilised in the national planning process.²²

ESAA submission stated that the NTP should not simply duplicate the existing TNSPs planning and would need to provide informed outlooks for transmission development over longer periods and assist in optimising transmission and generation.²³

Regarding whether the NTNDP should advise on the preferred project, ESIPC expected the Plan to contain specific recommendations on significant projects that

¹⁵ EUAA Submission, p.3

¹⁶ AER Submission, p.4

¹⁷ National Electricity Market Management Company (NEMMCO) Submission, p.4

¹⁸ NEMMCO Submission, p.4

¹⁹ VENCorp Submission, p.8

²⁰ VENCorp Submission p.8

²¹ EUAA Submission p.26

²² EUAA Submission p.26

²³ Energy Supply Association of Australia (ESAA) Submission, p.2

relate to relieving key constraints.²⁴ However the APA group commented that the national plan should present multiple future options rather than a preferred option.²⁵

The Group submission stated that the NTP should be able to publish enough information to enable third parties to replicate network planning studies.²⁶

3.2.2 Discussion

Transmission planning should be considered as a process rather than a single task. The stages involved in a generic planning process are outlined in more detail in Chapter 2. In this context, the issue can be considered as the question of how far down the different stages of the planning process should the NTP be involved before its involvement ceases.

The Commission considers that in order for the NTNDP to meet the requirements of the MCE direction it must involve a greater level of involvement for the NTP than is represented by the collective planning functions of the IRPC and NEMMCO (when preparing the ANTS) currently. This greater involvement might relate to increased breadth, e.g. reviewing and considering the high level consequences for investment planning across a wider range of scenarios for patterns of generation and demand. Alternatively, the greater involvement might relate to increased depth, e.g. to extend beyond commentary on conceptual augmentations identified by TNSP. This might include, for example, the ability to identify and discuss its own conceptual augmentations, in addition to those identified by TNSPs. Alternatively, it might extend to the level of identifying, and potentially assessing, specific detailed projects. This increased level of involvement would require the NTP to undertake its own system modelling and project development.

The Commission seeks views on:

- What range of scenarios should be required to be considered within the NTNDP?
- What level of detail should the NTNDP include in relation to options for, or solutions to, planning issues within its scope?
- In what specific ways might the NTP add value through greater involvement in the planning process, and how material would this added value be?

²⁴ Electricity Supply Industry Planning Council (ESIPC) Submission, p.2

²⁵ APA Group (APA) Submission, p.3

²⁶ The Group Submission, p.7

3.3 Scope of the National Plan

3.3.1 Electricity transmission, or wider?

The terms of reference states that the “NTNDP will provide information to the market on the longer term efficient development of the power system in order to guide network investment decisions and provide signals for efficient generation investment.” As this refers to power system and not just transmission network, this seems to require that the NTNDP will outline the broad future development of both the gas and electricity networks as well as power generation development. In this regard, electricity networks would mean both transmission and distribution network.

This leads to the issue of to what degree should the three areas of power generation, gas transmission, and electricity distribution be in the scope of the national plan. In addition, there is the question as to the extent that planning of embedded generation, demand side management and NCAS provision should be within in the scope of the Plan.

3.3.1.1 Submissions

NTQ Energy stated that the National Planner must also look at where economic generation should be based and that then encourages transmission interconnection to be put in place to allow generation to be developed in the most economic location.²⁷ Likewise, Sliger & Associates suggested that the review should take account of interaction of gas and electricity transmission as they are becoming increasingly complementary systems.²⁸

The Group submission advised that the NTP should publish information on the differential cost of generation by location versus the cost of transmission and ESIPC thought that the NTP could have the ability to identify trade-offs between electricity and gas transmission options.²⁹ It considered that the current TNSPs planning methodologies fail to properly reflect the decision making framework applied by generators.³⁰ It stated that transmission investment should neither pre-empt nor crowd out efficient generation investment.³¹

EUAA stated that NTP should monitor the development and competitiveness of fuel sources and new generation sites and create standard procedures and documentation processes for the economic and technical evaluation of gas and electricity transmission projects.³²

²⁷ NTQ Energy Submission, p.1

²⁸ Sliger and Associates Submission, p.1

²⁹ The Group Submission, p6 and ESIPC Submission, p.2

³⁰ ESIPC Submission, p.6

³¹ ESIPC Submission, p.6

³² EUAA Submission, p.40

Regarding the inclusion of distribution networks in the NTNDP, CitiPower and Powercor commented that the Plan should take account of the role of DNSPs including the interface between TNSPs and DNSPs, and distribution connections. They also suggested that the NTNDP should consider ways of optimising transmission and distribution together.³³ NEMMCO commented that Plan will need to assess all networks that affect inter-regional flows.³⁴ For example, the rating of sub-transmission networks in Northern NSW can limit flows inter regional transfers between NSW and QLD.³⁵

Powerlink submission stated that there is a need to be cautious with reviewing the roles of transmission and distribution.³⁶ The boundary of functions between TNSPs and DNSPs differs across states and the functional roles do not necessarily align with organisational boundaries.³⁷ It is important that the current joint planning which occurs between TNSPs and DNSPs is retained.³⁸

3.3.1.2 Discussion

ERIG made the point that the character and performance of a transmission grid cannot be assessed in isolation of the location and capacity of generators and of the loads they seek to serve.³⁹ This has been supported in some submissions, which have argued for the Plan to assess in some detail the development of electricity generation. The Commission notes that one of purposes of this Review as expressed in COAG's Communiqué is to provide guidance to investors and users to help optimise investment between transmission and generation across the power system. Also the increasing use of natural gas as a fuel source for power generation means that gas transmission can be a potential substitute for electricity transmission.

Distribution connection points can also be important as they can have a substantial impact on the capability and planning requirements of the transmission network.

However, there is a difference between power system planning and transmission network planning. Integrated power system planning involves attempting to optimise a configuration of demand side, generation, and transmission resources to meet to the requirements of a given set of customers. Transmission network planning is the process of planning just the transmission network taking into consideration the loads and generators connected or forecasted to be connected to the system.

³³ Citipower and Powercor Submission, p.1

³⁴ NEMMCO Submission, Attachment 1 p.5

³⁵ NEMMCO Submission, Attachment 1 p.55

³⁶ Powerlink Submission, p.1

³⁷ Powerlink Submission, p.1

³⁸ Powerlink Submission p.1

³⁹ ERIG, Final Report, p.149

The Commissions seeks comments on:

- To what degree should the three areas of power generation, gas transmission, and electricity distribution be in the scope of the national plan, and what specific functions should the NTP have to give effect to this?
- To what extent should planning of embedded generation, demand side management and NCAS provision be within in the scope of the Plan, and what specific functions should the NTP have in this regard?
- In what specific ways might the NTP add value if its remit were wider than electricity transmission planning, and how material would this added value be?

3.3.2 Network augmentations, or wider?

The development of the transmission network involves the following range of activities:

- Investment to facilitate new connections;
- Investment to maintain the existing transfer capability of the main grid (i.e., asset refurbishment and replacement); and
- Investment to increase the transfer capability of the grid (i.e., main grid augmentation)

One approach is to limit the scope to exclude activities other than projects whose purpose is to increase to main grid capability, while other approaches would include a wider range of activities within the scope of the NTP.

3.3.2.1 Submissions

EUAA considered that parts of the transmission network that provide significant market benefits related to the supply and demand for electricity must be within scope.⁴⁰ ETNOF commented that all connection applications from generator and load should continue to be managed by TNSPs since they are accountable for providing access under the NER.⁴¹

On a related issue, ESIPC asked whether the role of the NTP should include or exclude consideration of negotiated network services.⁴²

⁴⁰ EUAA Submission, p.33

⁴¹ ETNOF Submission, p.6

⁴² ESIPC Submission, p.5

3.3.2.2 Discussion

Currently the ANTS identifies only main grid and interconnection augmentations using the current definition of NTFPs. A finding from the Brattle review of international approaches to transmission planning, is that when there is a central planner as well as local TNSPs, the role of the central planner is always limited to main grid planning.

The argument against coverage of network connection investment, is that such investment is specific to customer being connected. However the line between customer-specific assets and shared network is not always clear, and that customer connection investments can affect power flows around the shared network. The issue of distribution connections being within the scope of the plan is discussed in section 3.3.1.

With regard to projects which maintain the existing capability (i.e., asset refurbishment and replacement), a possible argument against coverage is that such investment is not driven by the need to augment network capacity, although in some cases this can be a side-effect.

The argument for coverage of refurbishment investment, is that like-for-like asset replacement is seldom the case: for example new transformers have higher capacity than the transformers that they replace and hence asset replacement investment often results in augmentation. However this impact is not likely to be significant across the network, and so on balance there seems to be no compelling reason for the national planner to cover asset refurbishment.

Instead of limiting what transmission assets can be included in the scope, an alternative approach could to use the threshold test of whether the project materially affected the national grid, that was raised in the discussion of the boundary between national and local planning (see section 3.1.2), could be applied.

Another possible approach is for the national planning function to only consider investments above a minimum size (specified in \$ or MW) within that broad development. The argument for size-based discrimination is that it would reduce the scope and simplify the task of the NTP. The argument against is that in some circumstances even relatively small investments can have a significant impact on network capacity.

The Commission seeks views on:

- Whether the coverage of network assets for the NTNDP be limited to main grid augmentations, and if so, how should “main grid” be defined?
- The appropriateness of applying a threshold test (\$ value or MW) to determining the coverage of network assets in the NTNDP?

3.4 Other Scope Issues

3.4.1 Assessment of Transmission capability

The Terms of Reference state that the NTNDP will include information on the current and planned future capability of the national transmission network. In the Congestion Management Review Draft Report, the Commission noted the current lack of specification of capability measures and recommended that work should be undertaken to develop better measures of transmission capability and that this should be given effect through obligations in the Rules.⁴³ The Commission recognises that such work will assist in designing the content of the NTNDP.

3.4.2 Forecast Period of the NTNDP

The Terms of Reference require that the forecast planning period must be a minimum of 10 years. One issue for this Review is whether there would be any value in extending out the NTNDP forecasts for more than 10 years.

3.4.2.1 Submissions

Some submissions to the Scoping Paper addressed this. EUAA considered that the NTNDP should cover a 10 to 30 years horizon, with declining levels of detail and analysis for later years.⁴⁴ It also commented that the NTNDP's outlook for years 15 to 30 could only be reviewed every five years or following a major government policy change.⁴⁵ Sliger and Associates thought that the NTNDP should forecast the likely layout of the transmission grid in 30 years and identify long term transmission system corridors.⁴⁶

NEMMCO thought that extending the outlook to beyond ten years should be considered as this may assist strategic investment decisions such as decisions to introduce a higher transmission voltage, secure easements or proceed with transmission development in support of remotely connected generation.⁴⁷

3.4.2.2 Discussion

Internationally, planning forecast periods varying from seven years in the UK to ten and even – in less detail – twenty years in Alberta. Financing periods for new generation entrants tend to be longer than ten years and hence there maybe some value for potential new entrants for having a longer forecast period. However, this needs to be balanced against the purpose of the NTNDP to produce credible forecasts.

⁴³ AEMC, Congestion Management Review, Draft Report, 27 September 2007, p.135

⁴⁴ EUAA Submission, p.24

⁴⁵ EUAA Submission, p.25

⁴⁶ Sliger and Associates Submission, p.1

⁴⁷ NEMMCO Submission, p.13

The Commission seeks views on:

- Whether the forecast period for the NTNDP should be longer than the minimum ten years?

3.4.2.3 Relationship with other Planning Documents

Defining the role and content of the NTNDP will allow the relationship between the NTNDP and other planning documents such as the SOO and Annual Planning Reports (APRs) to be examined.

The Supply – Demand Balance contained in the SOO reviews the adequacy of NEM electricity supplies to meet projected electricity for the next ten years.⁴⁸ The SOO is intended to assist existing and potential National Electricity Market (NEM) participants when assessing:

- The future need for electricity supply capacity;
- Demand management capacity; and
- Augmentation of the transmission network to support.

Hence the information contained in the SOO will be a key input into the development of the NTNDP. This leads to the question of whether the responsibility of producing the SOO be given to the NTP. The Terms of Reference states that the NTNDP will replace the ANTS document but is silent on the SOO. NEMMCO currently publishes the SOO and the ANTS as a joint document and the Commission notes that there may be value for the information currently published in the SOO to instead be required to be published in the NTNDP.

Another function contemplated for the AEMO is the production of an annual gas statement of opportunities that emulates the purposes and elements of existing opportunities produced in the electricity and gas sectors.⁴⁹ Its purpose would be to assist existing participants and potential new entrants to identify investment opportunities and manage their positions in the market. Hence it might be beneficial for the electricity SOO to remain an AEMO function.

Regarding the relationship between the NTNDP and the APRs, questions arise whether

- It is necessary to continue to publish the SOO and APRs once the NTNDP is an established document
- If so, the appropriate content and publication date for all three document types and

⁴⁸ clause 3.13.3(o) of NER.

⁴⁹ This view is supported by the Gas Market Leaders' Group and the Joint Working Group on Natural Gas Supply (established by the Ministerial Council on Energy and the Ministerial Council on Mineral and Petroleum Resources)

- Whether over-time there would be benefit in combining some of these documents?

Such questions can be properly addressed once the role and content of the NTNDP has been defined.

The Commission seeks views on:

- The relationships between the NTNDP and other planning documents.

3.4.2.4 Research on Network Issues

The Group submission suggested that the Plan should put forward independent research on topics such as; the long term development and use of AC versus DC; the trends in flexible AC transmission system (FACTS) devices and their potential application in the NEM and security issues and network topology.

The Commission seeks views on:

- Whether the NTNDP also contain research on issues relating to transmission network planning?

3.5 Relationship between National Planner and TNSP Planning

This section discusses how the new transmission planning function will relate to planning performed by the state bodies. The purpose of the new arrangements is to support the national transmission planning process through assisting and complementing not replacing the localised transmission planning. There is a range of possible interactions between the new arrangements and planning that could be interpreted as being consistent with the MCE's Terms of Reference.

3.5.1 Submissions

The majority of submissions raised the problems of duplication of roles between the NTP and TNSPs and the dangers of the NTP impinging on TNSPs accountability. Only the Group thought that state based planning processes should be replaced and TNSPs should transition to planning principles and procedures that comply with the NTP process.⁵⁰

ESIPC commented that any powers to direct TNSPs to build specific projects rather than providing information that would be relevant to assessing possible projects raises significant issues of accountability of NTP and would also need to take account of TNSP financing arrangements.⁵¹ ETNOF commented that Commission must ensure that there is no duplication of roles between TNSPs and NTP.⁵² TNSPs cannot

⁵⁰ The Group Submission, p.7

⁵¹ ESIPC Submission p.4

⁵² ETNOF Submission, p.2

rely on the NTP because it will operate without any legal liability for network outcomes and therefore TNSPs will need to do the same level of planning and evaluation that it performs today. ETNOF considered that the National Plan should be providing a high level strategic national overview to assist the TNSPs in their planning.⁵³ Similarly, EUAA commented that the role of the NTP must be distinct and separated from the TNSPs to avoid duplication of effort and the risk of inefficiency arising from working at cross purposes.⁵⁴ In contrast APA Group commented that the focus of national planning should be wider rather than narrower and some duplication of planning between the NTP and TNSPs was preferable to insufficient planning.⁵⁵

Some submissions made suggestions in relation to the possible involvement of the NTP in the state planning process. For example, EUAA thought that the NTP could provide information to TNSPs on whether there is any risks to TNSP assumptions on generation sources and development contained in their APRs.⁵⁶ The Group proposed that the NTP could be given powers to act as an independent broker in coordinating cross border planning studies and individual cross border projects assessments.⁵⁷ Through this role, The Group thought that the NTP could add value to the planning process through maintaining operational communication protocols between all network operators and maintaining consistency between the assumed capability of the network used for system operation and its assumed design capability as applied in the network planning process.⁵⁸ NGF considered that the new transmission planning processes should ensure the application of consistent standards across the NEM but avoid the duplication of planning functions to be retained by TNSPs.⁵⁹

The Group suggested that TNSPs should be required to give detailed reasons if they make planning decisions that are at odds with those outlined in the National Plan.⁶⁰

3.5.1.1 Discussion

The Commission intends to assess whether there are ways in which the NTP could offer assistance to the JPBs and TNSPs in a manner that would not diminish the accountability of the TNSPs for their investment decisions. Hence should the role of the NTP be broader than just collating and disseminating information regarding the development of the power system?

There is a spectrum of possible approaches on which the Commission invites comment:

⁵³ ESIPC Submission p.2

⁵⁴ EUAA Submission p.21

⁵⁵ APA Group Submission p.3

⁵⁶ EUAA Submission p.33

⁵⁷ The Group Submission p.6

⁵⁸ The Group Submission p.6

⁵⁹ National Generators Forum Submission p.2

⁶⁰ The Group Submission pp.2-5

- a) The NTP providing advice to TNSPs regarding assumptions and methodology applied to their state planning processes;
- b) The NTP developing a common approach to planning that could be consistently applied across all states;
- c) The NTP having a monitoring and co-ordination role regarding inter-regional investments. This would be an extension to the current technical role provided by the IRPC;
- d) The NTP having the ability to exercise the Last Resort Planning Power function for strategic national projects that were identified in the plan but where not investigated further by TNSPs; and
- e) The NTP having a role in the project assessment and consultation process used to justified projects. The range of options regarding the involvement of the NTP in the this process is discussed in section 4.2.

Under such approaches the NTP would become more active along the various stages of transmission planning as shown in Figure 2.1 discussed in Chapter 2.

The Commission is interested on whether these options would diminish or improve the extent to which TNSPs are accountable for their investment decisions.

Regarding the Group’s suggestion that TNSPs should be required to give detailed reasons if they make planning decisions that are not consistent with those outlined in the National Plan consideration will be needed as to whether this would affect the TNSPs accountability. The Commission notes that TNSP may be asked by AER to explain deviations from the National Plan as part of the revenue reset process (this issue is discussed further in section 5.2.2).

The Commission seeks comments on:

- The possible options for additional involvement for the NTP with respect to the planning carried out by the JPBs.
- Whether making TNSP provide statements to explain any deviations from the National Plan would impinge on the TNSPs accountability and would be beneficial to market participants.

3.6 Additional National Transmission Planner Functions

While the primary function of the NTP will be the production of the NTNDP, the MCE direction also proposes a number of other functions for the NTP. These include replacing the current IRPC and providing advice to the AER to assist it in its revenue determination reviews. In addition, submissions have raised a number of possible additional ancillary functions that could be assigned to the NTP.

3.6.1 Inter-Regional Planning Committee

The IRPC is convened by NEMMCO and includes a representative from each Jurisdiction Planning Body (JPB). Having a technical focus the activities performed by the IRPC include:

- Assisting to coordinate inter-network augmentations by maintaining criteria for assessing whether an augmentation has a material impact on other networks;
- Developing guidelines describing when an inter-network test may be required;
- Assisting NEMMCO to develop inputs for the ANTS market simulations and coordinating provision of data from JPBs including conceptual augmentations and load forecasts; and
- Coordinating activities to improve power system modelling, electricity market simulation, inter-network testing and load forecasting.

To assist in undertaking its current roles and co-ordinating inter-network planning, the IRPC has established a number of working groups and which are chaired by NEMMCO representatives. The workings of the IRPC can often be of a highly technical nature.

In addition the IRPC provides advice to the Commission in relation to the exercise of the last resort planning power function. Issues relating to the LRPP function are discussed in section 4.3.

The issues needing to be addressed for this Review relate to how the technical co-ordination activities currently performed by the IRPC should be incorporated into the new arrangements. Currently the IRPC includes representatives from each state JPB. Submissions have commented that the NTP under the new arrangements should be independent of all interested groups, including TNSPs and generators. The Commission is interested in views as to whether the NTP could perform the IRPC functions without advice from the JPBs.

The Commission seeks views on:

- How should the current IRPC functions be incorporated into new national planning transmission arrangements?
- It is necessary and/or beneficial for the NTP to have advice from the state JPBs in exercising the IRPC functions, especially the technical work performed under the umbrella of the IRPC

3.6.2 Other tasks currently performed by JPB/TNSPs

In its submission, ESIPC stated that the Commission needed to consider a range of tasks currently performed by TNSPs and JPB to assess whether these are better

performed by the NTP.⁶¹ Such tasks include: Co-ordination of Emergency response and Communication under the Responsible Officer Role; maintenance of Load Shedding Schedules and Sensitive Loads.⁶²

The NTP should only be assigned functions which have a national focus and assist in meeting the purpose of ensuring a more strategic and nationally co-ordinated approach to transmission planning.

The Commission seeks views on:

- Should such functions be transferred to the NTP?
- Are there other similar functions that could be transferred to the NTP?

3.6.3 Possible additional Responsibilities for the NTP

Submissions raised the following additional functions that they considered should be performed by NTP:

- a) **Advice to MCE.** AER stated that the NTP could provide advice to the MCE on matters relating future capability and reliability of the NEM;⁶³
- b) **NCAS planning and procurement.** The Group considered that NCAS plays a vital role in complementing and supporting the network and therefore is an integral part of the network development process, and hence is a network planning decision;⁶⁴
- c) **Responsibility for State Load Forecasts.** Regional load forecasts will be a key input into any analysis performed by the national planner. NEMMCO raised the question of whether the NTP should be responsible or for the appropriate Jurisdiction Planning Bodies to produce the jurisdictional demand forecasts;⁶⁵
- d) **Monitoring the technical performance of TNSPs and their networks.** The Group suggested that NTP should be given a TNSP monitoring role in order to help it develop a detailed knowledge base, comparable to a TNSP⁶⁶; and
- e) **Generic Constraint equations for use in the NEMDE.** The Group also suggested that the NTP set the technical envelope of the power system as this

⁶¹ ESIPC Submission, p.5

⁶² ESIPC Submission, p.5

⁶³ AER Submission, p.5

⁶⁴ The Group Submission, pp.2-5

⁶⁵ NEMMCO Submission Attachment 2, p.3

⁶⁶ The Group Submission, pp.2-5

is best undertaken by a body with an intimate knowledge of the network and its design capability.⁶⁷

- f) **Advice to TNSP on Easements procurement:** EUAA thought that the NTP could provide list of where new easements could be required in the next 20-30 years.⁶⁸ The Group also suggested that NTP publishes information on the optimisation of the value of transmission easements, their procurement and use.⁶⁹

It is important that the functions which are assigned to the NTP are consistent with the Terms of Reference. Also the benefits of any allocation of additional responsibility must outweigh the additional costs of enabling the NTP to provide such functions. In addition a number of the functions listed above are currently performed by other bodies and allocation to NTP could create boundary and accountability issues (for example, the Reliability Panel provides advice to the MCE on reliability issues and AER has a responsible to monitor the TNSPS compliance with the Rules).

The Commission seeks views on:

- Whether such additional functions be assigned to the NTP?

⁶⁷ The Group Submission, pp.2-5

⁶⁸ EUAA Submission, p.12

⁶⁹ The Group Submission pp.2-5

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4 Project Assessment and Consultation Process

The Regulatory Test establishes the processes and criteria to be applied by TNSPs in considering investments in transmission and distribution networks. Clauses 5.6.5A of the NER provide the framework for the Regulatory Test which is made by the AER having regard to the requirements of the NER.

The Regulatory Test can be applied differently depending on the primary purpose of the prospective investment. If the main driver for investment is to meet a required standard of reliability, then a 'cost minimisation' test is applied. If reliability is not the main driver for the prospective investment, then investment options are assessed on the basis of maximising net benefits. In Victoria, an explicit economic value is placed on reliability and all transmission investments are considered using the 'maximise net benefits' test.

The MCE has directed the Commission to establish a new project assessment and consultation process which:

- Amalgamates the, currently distinct, reliability and market benefits limbs; and
- Broadens the definition of market benefits to include national market benefits.

The COAG's Communiqué states that, these changes would allow proposed transmission projects to be assessed against both local reliability standards as well as their ability to maximise benefits to the national market. The COAG Communiqué also contains a number of observations about the establishment of a national transmission planning process that are relevant to creating new project assessment and consultation process. These were:

- Where possible, the new regime must at a minimum be no slower than the present time taken to gain regulatory approval for transmission investment; and
- The new regime must not reduce or adversely impact on the ability for urgent and unforeseen transmission investment to take place.⁷⁰

The task for the Commission is therefore to establish a new test to be applied by network businesses when considering prospective investment which (a) has regard to a wider range of benefits than is currently the case, and (b) does not involve a different test being applied depending on perceptions of the primary reason for which the particular investments are required. For the purposes of this consultation, this new test has been given the working title of the Regulatory Investment Test (RIT).

The RIT will in the first instance affect the same scope of businesses as the current Regulatory Test, i.e. transmission and distribution businesses. The Commission notes that the ERIG report, and the motivation for the MCE's direction to the Commission, was related specifically to transmission. The impact of the new test on

⁷⁰ COAG Communiqué, p.3.

distribution companies was an issue consequently raised in submissions to the Scoping Paper.⁷¹ The Commission's interpretation of the COAG Communiqué is to the effect that its primary task is to design a test which is fit-for-purpose for transmission. The MCE is currently finalising its review on distribution and retail regulation. The appropriateness of the new test for distribution businesses should be considered through the more general process of development of the new Rules for distribution, rather than as part of this Review.

4.1 Amalgamating Reliability and Market Benefits

4.1.1 Options in the Scoping Paper

Three options for amalgamating the market benefits and reliability limbs of the Regulatory Test were outlined in the Commission's Scoping Paper. The three options were described as follows:⁷²

Option 1: Full cost-benefit approach. This option would base all planning and consultation on a cost-benefit decision criterion, with the benefits of meeting reliability (and other mandatory) obligations explicitly valued in the analysis. This is similar to the approach that VENCorp applies in Victoria through the use of its "probabilistic" reliability standards. This contrasts with the use of "deterministic" standards, which relate to technical measures or criteria for network service. The Scoping Paper suggested that this approach could lead to greater rigor in the setting of mandatory obligations, but that it would also require the adoption of a more complex assessment process for reliability-driven investments.

Option 2: Least-cost approach. This option would utilise a two-stage approach. In the first stage, network capability targets would be agreed through some form of cost-benefit analysis. These targets would then be applied against a least-cost decision criterion, whereby individual projects would be assessed according to whether they appeared to be the least-cost response to agreed mandatory obligations.

Option 3: Combined criteria approach. This option would maintain the existing least-cost approach to projects intended to meet mandatory obligations, but would allow for the incorporation of additional benefits where an option was likely to provide them. The selection criterion would then be the option with the highest NPV (or lowest negative NPV) out of all the options that met the mandatory obligations. Option 3 would ensure that TNSPs would be required to investigate whether an enhancement to a reliability project (or a different project that met the same reliability need) would provide market benefits that justified a higher cost, and select such a project if one were found.

⁷¹ ERGON and ENERGEX made submissions to the Scoping Paper, requesting clarification on how the revised project assessment and consultation process would affect the application of the regulatory test for Distribution Network Service Providers (DNSPs).

⁷² AEMC Scoping Paper, pp.13-16.

4.1.2 Submissions on the options in the Scoping Paper

No submissions supported the implementation of Option 2 (least cost approach). Views differed on the merits of Option 1 and Option 3, although most submissions agreed that Option 3 would be less complex and would be the least disruptive to the current arrangements of these two options. Submissions also raised a number of issues relating to the application of Options 1 and Option 3.

The AER stated that Option 2 was inappropriate and supported Option 1, but recognised that it could be perceived as imposing a more complex and onerous assessment process for reliability investments.⁷³ The AER noted that the only difference between Option 3 and the status quo (in which TNSPs adopt a broad definition of costs) is that Option 3 allows for the inclusion of additional benefits to boost a project's attractiveness while retaining the safety-net of the reliability limb.⁷⁴ The AER stated that this approach could maintain the existing bias in conservative interpretations of reliability requirements, something which ERIG warned against.⁷⁵

The AER stated that another concern with this approach was that it could open the test to gaming, with NSPs being tempted to "cherry-pick" only those costs and benefits that validated their proposed projects.⁷⁶ The AER urged the Commission to ensure that if Option 3 was adopted, that it require *all* relevant market costs and benefits (such as the impact of an option on generation dispatch and capital costs) to be included in the analysis.⁷⁷

VENCorp⁷⁸ stated that whether amalgamating the limbs of the Regulatory Test is a material matter depends on the planning criteria employed in the relevant jurisdiction. VENCorp noted that a probabilistic planning standard (which is applied in Victoria) would support the application of Option 1 and full cost-benefit assessment.⁷⁹ VENCorp stated that it supported the third option, referring to it as the logical way to integrate the two limbs in the presence of deterministic reliability standards.⁸⁰ VENCorp suggested that the objective of the revised test could be expressed as:

- Maximising net market benefits; or
- Where part or all of the reason for the project is to comply with an objective and identifiable reliability obligation, to maximise net market benefits or minimise the

⁷³ AER Submission pp.8-9

⁷⁴ AER Submission pp.8-9

⁷⁵ AER Submission pp.8-9

⁷⁶ AER Submission pp.8-9

⁷⁷ AER submission, pp.8-9.

⁷⁸ VENCorp submission, p.17-20.

⁷⁹ VENCorp Submission pp.17-20

⁸⁰ VENCorp Submission, pp.17-20

net market cost across the set of projects that meets the deterministic reliability obligation.⁸¹

ESIPC supported the proposed overhaul of the Regulatory Test to discard the separate reliability and market benefits limbs and to base the assessment framework squarely on a more classical cost-benefit criterion.⁸² ESIPC stated that the current reliability limb appeared to encourage TNSPs to adopt the least-cost but potentially sub-optimal options.⁸³

Powerlink stated that Option 1 would pre-empt the task that COAG has given the Commission of developing nationally consistent reliability standards.⁸⁴ Powerlink also noted that Queensland DNSPs are required to apply a deterministic (e.g., N-1) standard for their networks and the revised assessment arrangements must be able to handle these circumstances regardless of the standards adopted for transmission networks.⁸⁵ Powerlink supported Option 3 as being consistent with the COAG decision as well as the only viable option.⁸⁶ Powerlink noted that it would allow incremental market benefits to be assessed against the extra costs of a higher-than-least-cost solution.⁸⁷

The EUAA suggested that a simple screening process could be applied to all regulated transmission investments to assess whether any material market benefits were likely to arise.⁸⁸ If so, a more detailed assessment of market benefits could take place, whereas if not, the assessment could be based on simple project costs and performance criteria.⁸⁹

NEMMCO commented that Option 3 appears to allow integration of the two limbs with less disruption to existing processes.⁹⁰ Both the Powerlink and ETNOF submissions emphasised the need to balance the practicability of a revised assessment process against theoretical purity.⁹¹ ETNOF stated that the application of the current market benefits limb to all major projects would almost certainly result in delays in transmission investment.⁹² Powerlink also commented that practicality is important, especially since the Regulatory Test is applied to all network augmentations and not just those emerging from the NTNDP.⁹³

⁸¹ VENCORP submission, pp.17-18.

⁸² ESIPC Submission, pp.4-5

⁸³ ESIPC Submission pp.4-5

⁸⁴ Powerlink Submission pp.4-6

⁸⁵ Powerlink Submission pp.4-6

⁸⁶ Powerlink Submission pp.4-6

⁸⁷ Powerlink Submission pp.4-6

⁸⁸ EUAA Submission, p.2

⁸⁹ EUAA Submission, p.2

⁹⁰ NEMMCO Submission, Attachment 1, p.6

⁹¹ Powerlink Submission p4 and ETNOF Submission p.4

⁹² ETNOF Submission, p.10

⁹³ Powerlink submission, p.4.

The Group did not make any direct comments on the replacement of the Regulatory Test, but suggested that the present network assessment arrangements do not create a level playing field between transmission and generation development.⁹⁴ Their stated reason was because the reliability and security criteria used for transmission investment decision-making are more stringent than those implied by the current market price-capping arrangements (i.e. VoLL).⁹⁵ In other words, the current arrangements created a bias in favour of network investment over generation investment.

4.1.3 Framework for a new Regulatory Investment Test (RIT)

As noted above, the Regulatory Test distinguishes between investments made to meet technical “reliability” standards (e.g. “n-1” criteria), and those made on “economic” grounds. However as recognised by COAG the logic behind this distinction is questionable.⁹⁶ Investments made on the basis of reliability standards will have significant effects on congestion, pricing etc, while investments made to relieve congestion and foster competition will affect reliability. Moreover, reliability itself has an economic value that can, and routinely is, used in (for example) generation adequacy assessments.

The Commission’s task is to develop a new test, the RIT, 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. The Commission has identified the following framework for developing the RIT, and considering the issues. In applying the RIT:

- What should the scope of projects subject to the process be?
- What costs should be recognised and quantified?
- What benefits should be recognised and quantified?
- How should the range of options for consideration be identified? ; and
- What should the decision-making rule be to determine which option passes the RIT?

To illustrate this framework, Option 1 from the Commission’s Scoping Paper identifies and quantifies all costs and benefits (where practicable) and chooses the option with the highest present value of net benefits from the range of all possible options (including the option of doing nothing). Option 1 may involve more resources than current practices, which in turn raises the possibility of the new regime being slower – an outcome deemed undesirable by COAG.

⁹⁴ The group Submission p.7

⁹⁵ The Group submission, p.7.

⁹⁶ It has been described by one eminent economist as “a complete fiction” (*Patterns of Transmission Investment*, Paul Joskow, MIT 2005, p.12), and in a recent US industry-sponsored expert report as “outdated and no-longer-useful” (*A National Perspective on allocating the costs of new transmission investment: practice and principles*, WIRES 2007, p. 17).

In contrast, Option 3 from the Scoping Paper limits its scope to include only options which deliver compliance with the relevant reliability standards, and only quantifies benefits if they are likely to be material – but applies the same ‘maximum present value of net benefits’ rule to identify the best option. It should be noted that if, under Option 3, the ‘do nothing’ option is excluded on the grounds that it would result in non-compliance with relevant reliability standards, then the present value of net benefits for the chosen option could well be negative. The current ‘reliability limb’ of the Regulatory Test is an extreme example of Option 3 where, in effect, all potential additional benefits are assumed to be immaterial.

The issues raised in considering the design of a new RIT within the framework described above are discussed in more detail in the following sections. However, before that discussion the Commission would like to make a number of observations about broad characteristics which might be desirable in a new RIT, given the wording of and the intent behind the MCE’s direction to the Commission in respect of this task. First, the presumption should be that more, rather than less, types of costs and benefits should be included within the RIT. Second, the range of costs and benefits should be consistently applied. Third, while pragmatic ‘rules of thumb’ might be developed for avoiding wasted time and effort quantifying effects which prove to be immaterial, such ‘rules’ should be objective and transparent. One of the potential difficulties with Option 3, for example, is the question of how, exactly, will types of costs or benefits be ruled out as immaterial without first measuring them?

The Commission seeks views on:

- The proposed broad framework for developing a new RIT?
- The Commission’s observations on the desirable characteristics of an RIT?

4.1.3.1 Scope of Situations to be subject to the RIT

In relation to the scope of situations, the question is whether the test should also apply to network reconfiguration and refurbishment. A significant proportion of capital investment by TNSPs is refurbishment and replacement expenditure, which currently do not have to meet the Regulatory Test.

A number of submissions commented on this issue. ESIPC stated that given the ageing profile of TNSPs assets, it is important that the Regulatory Test encourages NSPs to efficiently combine augmentation and replacement projects to achieve efficient capital programs. Stanwell stated that the network investment assessment process ought to extend to network reconfigurations rather than just augmentations.⁹⁷

⁹⁷ Stanwell submission, pp.3-4.

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.⁹⁸

The Commission considers that this Review presents an appropriate opportunity to review the issue of whether network reconfigurations and/or network replacement projects should be subject to the project assessment and consultation process.

The Commission seeks views on:

- Whether the scope of situations subject to the RIT should include network reconfigurations and replacement expenditure?

4.1.3.2 Identification and quantification of costs and benefits

The AER submission raised the concern that TNSPs could game the test by “cherry-picking” only those costs and benefits that validated their proposed projects.⁹⁹ The AER urged the Commission to ensure that if Option 3 was adopted, it would require all relevant market costs and benefits to be included in the analysis.¹⁰⁰

It would appear that TNSPs exercise a degree of discretion in their selection of costs of a project when applying the reliability limb of the Regulatory Test. ETNOF stated in its submission to the AER’s consultation on the revised Test, that at least some TNSPs include the estimated impact of developing a transmission option on both:

- The magnitude and timing of future reliability-driven network costs: TNSPs account for the possibility that developing a relatively expensive option in the short term could result in a lower present value of costs being incurred than developing a number of individually cheaper projects over time; and
- Transmission losses: TNSPs often include the cost of losses (and correspondingly, the benefits of avoided losses) when applying the reliability limb to ascertain the “least-cost” option.¹⁰¹

There should be consistency in the range of costs and benefits TNSPs take into account in making their decisions. This would suggest that the Rules should mandate the types of impacts that need to be included in applying the RIT.

On the range of costs and benefits to be included in the RIT, the Commission notes that neither risk management effects nor competition benefits are captured under the Regulatory Test. These are complicated impacts to analyse, and their inclusion

⁹⁸ AEMC, *Transmission network replacement and reconfiguration, Rule Determination*, 1 March 2007 (Stanwell Rule Determination), pp.5 and 17.

⁹⁹ AER Submission pp.8-9

¹⁰⁰ AER Submission pp.8-9

¹⁰¹ ETNOF submission to AER, *Review of the Regulatory Test, Response to Proposed Regulatory Test Version 3 & Application Guidelines*, 6 September 2007 (ETNOF submission to AER), pp.2-5.

would need full consideration of how it would operate in practice, in an effective and proportionate manner.

Submissions highlight the implications of probabilistic versus deterministic reliability standards for the assessment of projects. One impact of the amalgamation of the two limbs of the Regulatory Test would be that it now requires the valuation of additional market benefits for projects that primarily meet deterministic standards. A possible market benefit could be the increased reliability above the minimum required under the deterministic standards. An approach to valuing reliability benefits may need to be developed in order to distinguish between options which have the same costs but differ in the amount (and timing) over which they exceed the minimum standards.¹⁰²

The Commission seeks views on:

- Whether the RIT should mandate the types of impacts to be included in any project assessment;
- Approaches to valuing reliability benefits
- What the list of mandated impacts should be, and whether in particular competition and risk management impacts should be included.

4.1.3.3 Avoiding wasted effort

In their submissions to the Scoping Paper TNSPs have expressed concern about moves to broaden the scope of transmission investment assessments on the basis that it would complicate and delay the process of meeting their mandatory reliability obligations.¹⁰³ As noted above, the Commission supports the principle of guidelines or 'rules of thumb' to avoid imposing a burden of unnecessary analysis on TNSPs, but observes that they must have an objective and transparent basis.

The Commission is mindful of the requirement in the MCE's direction that the new planning arrangements do not increase planning timescales. However, this is a different question to whether the workload of a TNSP in assessing network investment should increase. An outcome which requires TNSPs to commit more resources to the analysis of investment options is entirely consistent with the MCE's direction to the Commission, provided that such an increase was practical to

¹⁰² The variations in reliability benefits could relate to a) the period of time for which different options meet the mandatory standard – different options may satisfy a given standard for different periods of time; and b) the number of mandatory standards the option addresses. Different options may address a greater or smaller number of discrete mandatory standards.

¹⁰³ ETNOF submission expressed concern about the strategic bidding and dispatch modelling aspects of applying the existing market benefits limb. Their submission suggested that greater use of the market benefits limb would be likely to attract similar levels of scrutiny and debate as occurred around the Snowy congestion proposals, which would hamper their ability to evaluate their project proposals in a timely manner.

implement and proportionate to the overall improvement in the investment decision making process.

In any event, it is unclear how much additional work TNSPs would be required to do if the RIT required the assessment of more types of costs and benefits. For example, the quantification of benefits associated with reduced transmission losses is already undertaken by some TNSPs in applying the reliability limb of the Regulatory Test – which in itself would appear to require a relatively detailed load-flow (and therefore dispatch) modelling.

The Regulatory Test currently applies the concept of proportionality to determine the appropriate degree of detail and rigour to be applied in the assessment of the particular project option. There is a cost threshold of \$10 million to determine the extent of assessment and consultation required.

While continuation of the current framework is one possible approach for the new RIT, the Commission considers that a wider range of possible measures might be used to ensure that the RIT is applied proportionately. The approach of applying defined thresholds has the potential risk of being too simplistic and of not capturing all the necessary projects. Relatively low-cost investments can have far-reaching market impacts in some instances. Regarding this, issues emerge as to what party should determine the threshold and at what level should the threshold be set. In this regard, the suggestion from EUAA¹⁰⁴ of an initial screening process to determine whether a project has more than minimal market benefits may be useful.

The Commission seeks views on:

- How, specifically, will a more comprehensive routine assessment of costs and benefits by TNSPs impact on planning timescales – and to what extent can this be addressed through the commitment of additional resources by TNSPs?
- How should the concept of proportionality be reflected in how the RIT is applied?

4.1.3.4 Inclusion of national market benefits

The MCE direction requires the Commission to broaden the definition of market benefits to include national market benefits. The Commission notes that the Regulatory Test already allows for the inclusion of the total benefits of an option to all those who produce, distribute and consume electricity in the NEM.¹⁰⁵ The Scoping Paper sought views on the problems in the definition of market benefits, or the application of that definition, which lead to a failure to consider broader market benefits.

¹⁰⁴ EUAA Submission, p.2

¹⁰⁵ The Regulatory Test currently defines market benefits as “the total benefits of an option (or an alternative option) to all those who produce, distribute and consumer electricity in the national electricity market.

Stanwell states that the current focus of the market benefits limb of the Regulatory Test was too narrow, in that it ignored the economy-wide benefits of a reduction in wholesale electricity prices.¹⁰⁶ The Total Environment Centre (TEC) criticised what it considered to be the limited scope of the assessment under the Regulatory Test.¹⁰⁷ The TEC contended that the Test was rarely used to promote non-network alternatives and did not allow for the inclusion of national benefits.¹⁰⁸ The TEC stated that the existing Test ignored the potential for other types of benefits that could accrue from demand management.¹⁰⁹ However, the submission did not expand on what those types of benefits might be.

The TEC also highlighted that the equal weight in Rule 5.6.5A on consumers, producers and transporters of electricity appears to conflict with the NEM objective, which emphasises the long-term interests of consumers.¹¹⁰

NEMMCO noted that the meaning of market benefits under the current Regulatory Test is relatively well understood.¹¹¹ However, the current Test excluded benefits from strategic transmission investments to support future loads or generation.¹¹² This made it difficult to justify building transmission ahead of committed plans by loads or generation.¹¹³ Given the lead times involved in major transmission works, this could mean that market benefits are lost as a result of delays to the transmission justification process.¹¹⁴ Although the Commission notes that this potential matter is not quantified.

ETNOF noted that any broadening of the definition of market benefits must consider the additional complexity this would result in undertaking the Regulatory Test and whether the NTP could assist in managing this complexity.¹¹⁵ ETNOF also considered that the current concept of proportionality should be contained and used in regard to the consideration of what constitutes national market benefits in any specific application of the Regulatory Test.¹¹⁶

The Commission considers that the key concern of the MCE relates to the current custom and practice of how national benefits are accounted for by TNSPs in the investment assessment process, rather than any specific concerns with the legal definition of 'national' adopted in the Rules. This view is based on the issues raised in the ERIG report which preceded the COAG decisions and MCE direction, and the nature of the submission received.

¹⁰⁶ Stanwell submission, pp.2-3.

¹⁰⁷ TEC Submission p.5

¹⁰⁸ TEC Submission p.5

¹⁰⁹ TEC submission, p.5.

¹¹⁰ TEC submission, p.5.

¹¹¹ NEMMCO Submission Attachment 1, p.9

¹¹² NEMMCO Submission Attachment 1, p.9

¹¹³ NEMMCo Submission Attachment 1, p.9

¹¹⁴ NEMMCO submission, p.7.

¹¹⁵ ETNOF Submission, pp.10,11

¹¹⁶ ETNOF Submission, pp.10,11

The Commission seeks views on:

- Whether, the Commission is correct in its view that the existing text in the Rules determining the scope of 'national' benefits is sufficient for the purposes of the new RIT?
- If the current Rules remain, whether there would be benefit in expanding the operational guidelines on determining national benefits?

4.1.3.5 Range of Options to be considered

The application of the Regulatory Test also provides a mechanism for public consultation in relation to transmission options. This seeks to ensure transparency in TNSP's decision making, particularly in respect to the ranking of various project options. ERIG considered that, its usefulness in this role is limited to the extent to which information is available to analyse its application and also the uncertainty which is created when the body administering the test is also the proponent of the transmission investment project. This raises the question as to whether proper evaluation of all possible options is being done.

The TEC submission stated that a requirement to have regard to demand side options should be a key priority for the new arrangements and the TNSPs should be required to investigate non-network solutions before assessing network options. It considered that greater transparency in transmission network operations, forecasting and reporting is required to improve the consideration of DM.¹¹⁷ Likewise, the EUAA stated that there is a lack of information and that better information could facilitate lower-cost network alternatives coming forward.¹¹⁸ The EUAA stated that there is presently a lack of publicly available information on the customer reliability impacts and underlying cost and value drivers for particular investments.¹¹⁹

The Commission seeks views on:

- What additional information should be released to support identification of options?
- What options must be included in the assessment?
- Whether the NTP should advise the TNSPs on the range of possible options to be assessed under the RIT.

¹¹⁷ TEC Submission, p.3.

¹¹⁸ EUAA submission, p.34.

¹¹⁹ EUAA Submission p.34

4.1.3.6 Decision making Rule to determine which option passes the RIT

The options for amalgamating the two limbs of the Regulatory Test will ultimately lead to the choice of project based upon criteria requiring the maximisation of benefits or the minimisation of costs.

Views expressed in the submissions highlighted that the applicability of each of the options for amalgamating the two limbs of the Regulatory Test depends in large part on the outcome of the Commission's review of network transmission reliability standards. The Commission considers that the approach to amalgamating the reliability and market benefits limbs must be flexible to cope with any outcome resulting from that review.

The Commission now see the choice as being between either the Option 1 or Option 3 put forward in the Scoping Paper. None of the submissions advocated reasons for the Option 2 (least cost) approach. NEMMCO argued that the approach would be unworkable and inefficient.¹²⁰

The Scoping Paper stated that the adoption of a full cost-benefit approach (Option 1) would effectively mean that options to satisfy mandatory obligations would only be developed where they had a positive net present value (NPV). Hence this would mean that if the Commission maintains a framework of deterministic transmission reliability standards, then the Option 1 approach may affect TNSPs' ability to satisfy their mandatory obligations.

The question of whether a cost benefit approach (Option 1) could be applied with deterministic standards depends upon whether it is acceptable to value reliability benefits generated from the deterministic standards, and if so, can an appropriate methodology be agreed to in order to value such reliability benefits. If these issues can be addressed then Option 1 could be applied irrespective of whether probabilistic or deterministic standards were being applied. A mandatory obligation would be met with the project that had the highest positive NPV or lowest negative NPV.

There is also the question of whether such criterion is robust enough. There may be cases when a relatively low-cost project might meet a reliability standard, but a more expensive project is available that is expected to meet the standard at lower net cost (i.e. direct costs less market benefits). For example, assume that the first project could meet the reliability standard at a cost of \$10 million without generating any market benefits while the second project could have a cost of \$100 million but market benefits of \$95 million. While the second project would maximise welfare under normal conditions, it may expose the market to the risk that the predicted market benefits may not come to fruition and that the high costs to develop the project are incurred unnecessarily with the benefit of hindsight.

One way of dealing with such situations may be to impose a decision criterion based on maximising the *ratio* of net market benefits to project costs (or, conversely, minimising the ratio of net market costs to project costs). However, this would itself

¹²⁰ NEMMCO submission, Response to AEMC Scoping Paper, p.8.

need to be subject to caveats, as presumably both market stakeholders and policy-makers would prefer a project with, say, \$100 million market benefits and \$50 million costs proceeding in place of an alternative project with \$20 million market benefits and \$5 million costs.

Therefore, it may be most appropriate to treat the application of the assessment process in a similar way to the current application of the Regulatory Test – that is, to require NSPs to apply the assessment across a range of scenarios and use their judgment to find the most appropriate option.

The Commission seeks views on:

- Whether, and why, the valuation of reliability benefits is consistent with the practical application of a deterministic reliability standard framework?
- Whether there is a need for a more specific decision criterion for the revised project assessment process?

4.2 Interaction between National Transmission Planning Function and Regulatory Investment Test

4.2.1 Background

To address the current regionalised approach to transmission planning, ERIG proposed that the Regulatory Test be replaced with a two-step process to guide efficient investment.¹²¹ The first step would involve establishing an overarching longer term plan (NTNDP) for the efficient development of the national transmission network in place of the approach in the Regulatory Test of project-by-project assessment. In the second stage, the relevant NSP would be required to consult on individual projects to ensure that the options which are commissioned are the most appropriate; are consistent with the NTNDP; and that non-network solutions are fully considered. ERIG considered that project by project assessment cannot be expected to deliver efficient, long term development of the national network and recommended that decision making is not applied to an individual project in isolation, but rather from the perspective of the network as a whole.

The COAG Communiqué noted that the proposed revised planning arrangements were intended to assist TNSPs, when undertaking planning and putting forward their revenue proposals to the AER, to demonstrate that their projects are aligned with the NTNDP. COAG stated that the AER was also to have regard to the NTNDP and the advice of the National Transmission Planner when making revenue determinations. However, the COAG Communiqué also states that:

- The NTNDP would not bind the AER in its consideration of TNSPs’ revenue proposals;

¹²¹ ERIG Final Report, pp.184-186.

- The NTNDP would not replace localised transmission planning or bind TNSPs to specific investment decisions; and
- Accountability for transmission investment, operation and performance would remain with TNSPs.

4.2.2 Submissions

Powerlink's submission stated that the revised planning arrangements would need to ensure that TNSPs could continue to undertake investments necessary to meeting their mandatory obligations.¹²² The ETNOF submission stated that the role of the NTNDP could lie in accumulating and disseminating information rather than duplicating TNSPs' planning functions.¹²³ The range of possible interactions that are consistent with the principle of maintaining TNSPs accountability are discussed below.

In its submission, ETNOF stated that the NTP could add value in identifying and publishing information on national market benefits and assist TNSPs by providing common information on generator capital and operating cost assumptions and detailed assumptions on the modelling of national market benefits.¹²⁴ An expansion of this suggestion would be for the NTP to develop standard methodologies for valuing market benefits. Such an approach would require that the NTP have some economic expertise as well as technical proficiency. The AER stated that the NTP should be responsible for developing criteria for the project and consultation process based upon the integrated limbs of the regulatory test.¹²⁵

The EUAA proposed that the NTP should develop standard procedures for screening options for the applicability of market benefits in their economic evaluation.¹²⁶ It also stated that it would be preferable if the NTP critique rather than be responsible for economic analysis in the feasibility of new inter-regional projects.¹²⁷ The option for an independent review of the conduct of the project assessment and consultation process could be a further mechanism to ensure that non-network options had been appropriately considered by the proponent.

4.2.3 Issues

The submissions to the Scoping Paper suggested four broad options for the interaction between new RIT and the NTP. The NTP may:

- Lead a process of co-ordinating and disseminating information on good practice in undertaking the RIT;

¹²² Powerlink submission, pp 3-4.

¹²³ ETNOF submission, pp. 2-3.

¹²⁴ ETNOF Submission pp. 2-3

¹²⁵ AER Submission, p.5

¹²⁶ EUAA Submission, p.2.

¹²⁷ EUAA Submission, p.2

- Recommend or specify certain elements of a methodology to be applied in undertaking the RIT;
- Ensure compliance with how the RIT is applied; or
- Take primary responsibility for undertaking the RIT in certain circumstances.

Regarding the development of standard methodology and data inputs the Scoping Paper noted that there may be some benefits in standardising some of the assumptions and scenarios to be used in an investment assessment. This could be linked to the information and analysis produced by the NTP.¹²⁸ The universal availability of such data may reduce the likelihood of disputes arising during the application of the RIT.

The Commission is keen to understand in more detail what stakeholders consider to be the strengths, weaknesses and wider implications of these four broad options, and in particular views on the following questions:

- What value might the NTP add to the RIT process under each of the different broad options identified above?
- What particular aspects of an RIT methodology might the NTP specify or recommend?
- How binding should the views or recommendations of the NTP be on the party with primary responsibility for undertaking the RIT?
- How might a 'compliance and monitoring role interact with the AER's role of monitoring and enforcing compliance with the Rules?
- However it is not clear to the Commission if there is value in the NTP taking over the AER role in monitoring the application of regulatory tests.

4.3 Last Resort Planning Power Function

4.3.1 Background

Following the submission of a Rule change proposal on 5 October 2005 by the MCE, the Commission made a Rule providing the Commission with the power to direct a party (for the purposes of the Rule, a registered participant) to undertake the Regulatory Test in relation to an identified new network investment (referred to as the Last Resort Planning Function (LRPP)).¹²⁹

¹²⁸ AEMC Scoping Paper, p.16.

¹²⁹ The power does not apply to non-network projects (for example generation or demand side projects). There is however scope to assess non-network projects as viable alternative options to a proposed transmission investment as part of the usual application of the regulatory Test.

The purpose of the LRPP function is to ensure that appropriate consideration is given to transmission investment in circumstances where existing incentives to undertake transmission investment may be lacking. These circumstances may arise where a potential transmission investment results in inter-regional benefits that could result in positive net benefits to the market as a whole, but which is not economic for any one NSP operating in one region of the market to undertake. The role of the LRPP under the new transmission planning arrangements will be evaluated under this Review and the Scoping Paper requested comments on the appropriate institutional arrangements for the LRPP and the implications of the functions of the NTP.

The IRPC and the ANTS, which the MCE's direction to the Commission stipulates should cease to exist when the NTP is established, have formal roles in the LRPP. The Rules require the Commission to seek advice from the IRPC when identifying a potential transmission project and have regard to the ANTS. The Commission also has the power to request NEMMCO to appoint additional expertise from other non-transmission sectors to the IRPC.

4.3.2 Submissions

NEMMCO in its submission to the Commission's scoping paper stated that it should be considered as to whether there is a need for the LRPP under the new arrangements.¹³⁰ In its submission to the Commission VENCORP was in favour of the LRPP remaining, as in its view there is a continuing need for the oversight of TNSP's investment decisions, and the LRPP fulfils this role.¹³¹ ETNOF was also supportive of the LRPP function remaining.¹³² The Group were of the view that the LRPP should be integrated into a single transmission planning process.¹³³

Submissions also commented on who should exercise the LRPP. VENCORP stated that the planned AEMO would be the appropriate body to exercise the LRPP.¹³⁴ ETNOF stated that as the national planner will form part of the overall planning process which might be failing, that the LRPP role must remain outside the NTP.¹³⁵ The EUAA stated that the NTP would be suitable to exercise the LRPP or at least to advise the Commission.¹³⁶ NEMMCO stated that instead of having the power to exercise the LRPP, the NTP could take over the IRPC advisory role to the Commission.¹³⁷

¹³⁰ NEMMCO submission, p.4

¹³¹ VENCORP Submission p.16

¹³² ETNOF Submission, p.7

¹³³ The Group Submission pp.2-5

¹³⁴ VENCORP Submission p.16

¹³⁵ ETNOF Submission p.7

¹³⁶ EUAA Submission pp.29-30

¹³⁷ NEMMCO Submission p4

4.3.3 Issues

The issues relating to the LRPP interact strongly with the issues relating to the role of the NTP in the new RIT, discussed in the previous section. For example, if the NTP has primary responsibility for undertaking the RIT in some circumstances, then it would not appear to be appropriate for the NTP to also have an advisory role in whether the Commission should exercise a power to direct a party to undertake a RIT as there would be a conflict of interest.

The Commission notes that some submissions questioned whether the creation of an NTP would remove the rationale for the LRPP, and agrees that the NTP's presence might reduce the risk of planning failure such that the LRPP needs to be exercised. The NTP's presence might also improve the quality of information available to the Commission in deciding whether to exercise the LRPP or not. However, where the role of the NTP remains mainly information – and the primary responsibility for planning investment, and therefore deciding on whether a RIT should be undertaken or not rests with TNSPs – then retaining the LRPP would appear to represent the more prudent approach. There is still a risk of planning failure, albeit a reduced one.

The Network and Distributed Resources Code changes introduced¹³⁸ an explicit obligation for TNSPs to plan on a 'national network basis'. TNSPs are required to jointly plan proposed augmentations with neighbouring network service providers to ensure that they represent the most economic solution – disregarding state borders and the boundaries between networks. However, there may be shortcomings in the extent and effectiveness of this co-operative planning and whether it adequately motivates the TNSP to develop projects for market benefits reasons. The LRPP was established to address this and hence the need for the LRPP is likely to remain under the new arrangements.

If the functions of the NTP included the ability to direct a TNSP to undertake a RIT in certain circumstances (i.e. to exercise a power equivalent to the LRPP), then there remains the question of whether the LRPP should continue to exist as a safeguard against planning failure in other circumstances – or as a safeguard against the NTP failing to undertake its functions appropriately.

Where the NTP's might have primary responsibility for undertaking a RIT in some circumstances, there is also a potential role for the LRPP. In these circumstances, the question is whether a last resort intervention is required to remedy a planning failure by the NTP. If it is deemed necessary for TNSPs, then it might be viewed as consistent to have it in place for the NTP also. In these circumstances the Rules would clearly need to be amended to remove the IRPC/NTP advisory role.

A related issue to be considered is the possible transfer of VENCORP/ESIPC planning functions to AEMO. It is noted that, in Victoria, the AEMO is expected to absorb VENCORP's functions and hence to assess specific projects using the regulatory test and to make investment decisions. The last resort planning function in this context would just mean that interested parties would have the ability to ask the AEMO to consider a project that it may not otherwise have considered. This may have

¹³⁸ Firecone, Evolution of Transmission Planning Arrangements in Australia, October 2007.

implications for the governance arrangements between AEMO and NTP which are discussed in Chapter 6 of this Paper.

A further issue that needs consideration is that if the LRPP rests with the NTP, then whether it is appropriate for the NTP to have any power over the Regulatory Test with respect to those projects initiated by the LRPP.

Given the development of a National Transmission Planner the Commission seeks feedback from interested stakeholders as to:

- The purpose for the LRPP under the new arrangements;
- Who should be responsible for the LRPP;
- The status of the advisory role of the IRPC to the LRPP; and
- Any other comments regarding the application of the LRPP under the new arrangements.

4.4 Provision for Urgent and unforeseen Investment

4.4.1 Background

The Terms of Reference state the new arrangements must not reduce or adversely impact on the ability for urgent and unforeseen investment.

4.4.2 Submissions

On this point, the AER submission stated that project assessment of projects under an over-arching national plan will not adversely delay urgent investment.¹³⁹ The AER noted that under the current arrangements TNSPs have sufficient flexibility in their capital allowances plus the contingent project mechanism.¹⁴⁰ Furthermore, with the NTNDP not being binding on TNSPs it is hard to see how the provision for urgent and unforeseen investment being would be affected.

4.4.3 Issues

The rationale for the NTP is to enhance the process of transmission planning. The need for urgent or unforeseen investment represents a failure of planning. It is not therefore clear to the Commission how, specifically, the creation of a new RIT can make planning failure more likely. Further, irrespective of the flexibility of the revenue allowances available to TNSPs, the Commission does not accept that any inflexibility in revenue allowances would constitute a valid reason for a TNSP not undertaking urgent investment.

¹³⁹ AER Submission, p.9

¹⁴⁰ AER Submission, p.9

The Commission seeks views on:

- Why, specifically, different options for an RIT (and the role of the NTP in that process) might result in urgent or unforeseen investment being delayed?
- How would the RIT (and the role of the NTP in that process) need to be re-designed to assess the source of any such delay?

4.5 Detailed design issues

This section of the chapter considers a number of secondary issues surrounding the proposed revised network planning and consultation process.

4.5.1 Need for a proponent for reliability driven options

The Scoping Paper raised the issue of whether an identified proponent was required under the third option for amalgamation of the limbs of the Regulatory Test. In its submission, Powerlink stated that the existence of an identified proponent was essential when an investment is required to meet mandatory network performance standards.¹⁴¹

In its recent Rule change Determination on the principles for the Regulatory Test, the Commission noted and did not seek to alter the requirement in Version 2 of the Regulatory Test for alternatives to reliability augmentations to have an identified proponent.¹⁴²

There appears to be little reason for reviewing the requirement for a proponent for investments motivated by mandatory reliability obligations. So long as TNSPs are subject to mandatory deterministic obligations, the rationale for the need for a proponent for alternative options appears to remain intact.

4.5.2 Appropriateness of the RFI process to reliability investments

A key change effected through the AEMC's Regulatory Test principles Rule change was the requirement for TNSPs to publish an RFI (Request for Information) 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).¹⁴³ 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;

¹⁴¹ Powerlink submission, p.5.

¹⁴² Regulatory Test Principles Final Rule Determination, p.70.

¹⁴³ Rule 5.6.5A(c)(4).

- 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.¹⁴⁴

If the current limbs were amalgamated as part of a revised planning and consultation process, there is a question as to whether the RFI requirements should similarly apply to the assessment of all large augmentation options. In other words, the question is whether the RFI process should apply to augmentation options that are currently assessed under the reliability limb of the Regulatory Test (“reliability investments”).

In this context, it should be noted that under Version 3 of the Regulatory Test, VENCORP will be required to make RFIs for all of its large planned investments due to VENCORP’s universal application of the market benefits limb of the Regulatory Test. Therefore, it would seem logical that under amalgamation, the RFI requirement would apply to what are currently considered to be “reliability investments”.

On the other hand, in its Final Rule Determination, the Commission explicitly decided not to impose an RFI requirement for reliability investments.¹⁴⁵ Rather, the Commission retained the need for reliability options to have a commercial proponent. The Commission noted that the requirement for a proponent was consistent with an outcome under the RFI process, in that both requirements should overcome gaming incentives. The Commission found:

“Overall, it is not clear whether the application of an RFI to large reliability investments would deliver additional benefits beyond the consultation requirements that presently exist, compared to any additional risks of delays. The Commission has not been presented with evidence in relation to the materiality of this issue.”¹⁴⁶

The Determination went on to say that ERIG was likely to be better placed to consider the future role of the RFI in the context of its review. However, the ERIG Final Report made no comments on the RFI process.

Neither ETNOF nor Powerlink raised the RFI process as a concern in their submissions to the Scoping Paper.

The key incremental benefit of extending the RFI requirements to reliability investment proposals would be to ensure TNSPs were required to consult widely on potential alternatives to these proposals and received well specified information on possible alternatives. However, as noted by the Commission in its Regulatory Test

¹⁴⁴ Regulatory Test Principles Final Rule Determination, p.58.

¹⁴⁵ Regulatory Test Principles Final Rule Determination, p.70.

¹⁴⁶ Regulatory Test Principles Final Rule Determination, p.70.

principles decision, NSPs must already consult on investment options, including small and large reliability augmentations, as part of the APR process.¹⁴⁷

In light of the suggested retention of a proponent requirement for reliability investments, the issue for consideration is whether there is additional benefit in extending the RFI requirement to what are currently reliability investment proposals. In amalgamating the two limbs of the Regulatory Test, the case for including or excluding the need for an RFI for options principally (or partly) intended to satisfy a mandatory standard or obligation will turn on an assessment of the costs and benefits of the alternative approaches.

The Commission seeks views on:

- Need for a proponent for reliability driven options; and
- Appropriateness of the RFI process to “reliability investments”

¹⁴⁷ Regulatory Test Principles Final Rule Determination, p.70.

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5 Revenue and Pricing Framework

The MCE direction tasks the Commission with considering the merits of aligning the timetables for transmission revenue determinations. The Commission also considers that it is important to evaluate and explain how the proposed national planning arrangements and revised project assessment process will relate to the revenue and pricing framework for TNSPs. As explained in Chapter 2, the planning and project assessments process is one stage within the overall provision of transmission services. The next stage following on from project assessment is the TNSP's decision making for and implementation of the planned transmission investment. The revenue remuneration and pricing framework will influence this stage. This chapter discusses these issues.

In addition, this chapter also covers the issue of an inter-regional charging arrangement which although not principally referenced in the MCE Terms of Reference, could affect the ability of the proposed arrangements to ensure a more national and co-ordinated development of the national transmission grid.

The COAG Communiqué also states that efficient behaviour will be rewarded through the AER service incentive regime, revisions to which are currently being finalised. The Commission considers that it is not within the scope of this Review to assess whether the AER service incentive scheme should be amended for the implementation of the new planning arrangements.

5.1 Simultaneous Reviews for TNSPs revenue determination

5.1.1 Background

ERIG's report to COAG¹⁴⁸ commented that the National Transmission Planner model allowed for the greatest efficiency gains through effective links between planning and the economic regulatory regime where regulatory revenue resets are simultaneously determined and the regulator gives consideration to each individual TNSP's plan in the context of the NTNDP. The MCE direction calls for the Commission to examine this issue.

The simultaneous determination of revenue resets has been advocated as a means to facilitate the NTP in having a NEM wide approach to developing the NTNDP by assisting the NTP in being able to procure information from TNSP's. It would also allow the NTP to provide information and advice to the AER when the AER is required to evaluate the TNSP's revenue resets thus providing the benefit of a NEM wide view being included in the revenue determination process. It should be noted that a revenue determination can take up to eighteen months to complete.

Currently the individual TNSP's for each of the jurisdictions in the NEM submit their revenue reset proposals and have their revenue resets evaluated and determined by

¹⁴⁸ Energy Reform Implementation Group, Energy Reform the way forward for Australia A report to the Council of Australian Governments by the Energy Reform implementation Group, January 2007.

the AER at different times (See table 5.1 below for the current timetable for the review of TNSP revenue caps.)

5.1.2 Submissions on simultaneous TNSP revenue determinations

Submissions to the Commissions scoping paper have commented extensively on this issue. VENCORP, the Group did not see any value in aligning revenue resets.¹⁴⁹ The AER was of the same view and commented that that an effective national plan updated annually is a better response than aligning transmission revenue resets.¹⁵⁰ The AER further stated that the revenue reset process is highly technical and involves significant resources. It was of the view that simultaneous reviews would make it difficult to maintain internal capability and external expert resources to assist in the task.¹⁵¹ The AER also stated that the current timing would only allow for the simultaneous revenue reset process to commence from 2019.¹⁵²

ESIPC stated that provided that the national plan contains sufficient detail to project forward projects across the NEM, there is no reason to align revenue periods.¹⁵³ Powerlink stated that there is little value in aligning TNSP revenue periods because currently impacts between regional transmission planning are minimal.¹⁵⁴ Powerlink also stated that it is unlikely that there will be material levels of potential augmentations involving multiple TNSP's in the future.¹⁵⁵ ETNOF also did not see the benefit in conducting simultaneous reviews.¹⁵⁶ It stated that the need to consider multiple interactions in a compressed timeframe is likely to diminish consideration of national matters rather than enhance them.¹⁵⁷

The EUAA stated that the practicality of simultaneous reviews is questionable due to resources requirements.¹⁵⁸ The EUAA stated that if the overall NTP role is effective there is no need for a simultaneous review process.¹⁵⁹ The EUAA nevertheless did state that the AER should still aim for consistency in the revenue resets across TNSPs.¹⁶⁰ The APA Group stated that there are hidden costs in aligning the revenue regulatory periods, including the cost of regulatory and financing risks in transitioning to a new timetable.¹⁶¹ The APA Group also stated that there is a risk

¹⁴⁹ VENCORP Submission, p.20, the Group pp.2-5

¹⁵⁰ AER Submission, pp.10-11

¹⁵¹ AER Submission, pp.10-11

¹⁵² AER Submission, pp.10-11

¹⁵³ ESIPC Submission p.3,4

¹⁵⁴ Powerlink Submission p.3

¹⁵⁵ Powerlink Submission p.3

¹⁵⁶ ETNOF Submission pp8-9

¹⁵⁷ ETNOF Submission pp8-9

¹⁵⁸ EUAA Submission pp32-34

¹⁵⁹ EUAA Submission pp32-34

¹⁶⁰ EUAA Submission pp32-34

¹⁶¹ APA Group Submission pp3-5

that the AER would adopt a “one size fits all” approach to different types of networks.¹⁶²

Related to the issue of simultaneous revenue resets is the role of a contingent project mechanism. Contingent projects are identified capital projects that are sufficiently uncertain that they cannot be included in the maximum allowed revenue at a regulatory reset. A further explanation of the contingent project mechanism provided for currently in the NER is included in Box 5.1 below.

The Commission has received submissions stating that an effective contingent projects mechanism would remove the requirement for the alignment of TNSP’s revenue resets. The AER stated that the contingent project mechanism enables an aligned trigger for inter regional investments, even where the revenue caps themselves are not aligned.¹⁶³ The AER states that the flexibility of this mechanism removes any barrier caused by staggered revenue resets¹⁶⁴. VENCORP stated that superior incentives would be created if the scope for (uncertain) national projects were expanded.¹⁶⁵

¹⁶² APA Group Submission pp.3-5

¹⁶³ AER Submission pp.10-11

¹⁶⁴ AER Submission pp.10-11

¹⁶⁵ VENCORP Submission p.20

Box 5.1: Contingent Project Mechanism

In summary the contingent project mechanism specified in the Rules requires:

- The TNSP to identify projects with associated, objective trigger events at each regulatory reset;
- The AER to assess the proposed contingent projects against a specified criteria;
- If and when the need for a contingent project is triggered, the TNSP to propose the forecast total expenditure; and
- The AER to accept the proposed expenditure if it determines that the expenditure estimate is reasonable, having assessed them against specified criteria.

The contingent projects mechanism requires TNSPs to identify contingent projects (together with triggers) at each regulatory reset. If and when the need for a contingent project is triggered, the TNSP can propose the forecast total cost and timing of the project as well as a profile of expenditure for inclusion in the MAR during that regulatory period. The AER must accept the project cost, profile of expenditure and timing if it is satisfied that these proposed features reasonably reflect efficient and prudent costs based on realistic estimates of forecast demand and cost inputs with regard to a number of evidentiary factors.

The treatment of expenditure on the contingent project varies according to whether all the expenditure is expected to be incurred in the original (i.e. the first) regulatory period, or whether the expenditure is expected to spill over into the next (i.e. the second) regulatory period. In the first case where the contingent project is expected to be completed within the first regulatory period, the TNSP would be allowed to recover a return on and of the forecast capital expenditure during that period. This means that if the TNSP under-spends on the project, it receives a reward equal to the return on and of the under-spend for the remainder of the first period. Conversely, if the TNSP overspends on the project, it faces a penalty equal to the return on and of the overspend for the remainder of the first period. In either case, the actual expenditure is rolled into the TNSP's RAB at the end of the first period. This means that the reward for under-spending or the penalty for overspending ceases at the end of the first regulatory period.

The alternative situation is where development of the contingent project is expected to commence on the first regulatory period but be completed in the second regulatory period. If the TNSP under-spends on the contingent project during the first regulatory period compared to the allowed expenditure profile for that period, the actual expenditure is rolled into the RAB at the end of the first period and the under-spent value is added to the forecast capital expenditure for that project for the second regulatory period. At the same time, the underspend is not permitted to be taken into account in either:

- Setting (i.e. reducing) the TNSP's forecast capital expenditure allowance for that contingent project in the second regulatory period; or
- Setting (i.e. reducing) the TNSP's remaining (i.e. non-contingent) capital expenditure allowance for the second regulatory period.

An effective contingent projects mechanism complements and adds to the incentive arrangements TNSP's face when investing in capital. It seeks to provide an appropriate balance between providing incentives for investment and efficiency in the context of TNSP regulation.

The Commission has also received submissions stating that there would be efficiencies gained by aligning the transmission and distribution revenue resets for each of the NEM jurisdictions. The AER stated that simultaneous transmission and distribution reviews would provide greater synergies than simultaneous transmission reviews.¹⁶⁶ The AER stated that the current South Australian transmission review has uncovered some issues which could have equally been addressed by either transmission or distribution solutions.¹⁶⁷ ESIPC stated that there was greater benefit in aligning the transmission and distribution reviews. Powerlink stated that there was greater likelihood of synergies in aligning transmission and distribution reviews as both TNSP's and DNSP's use the same load forecasts for planning.¹⁶⁸

5.1.3 Discussion of simultaneous TNSP revenue determinations

The Commission also considers the AER's submission on the practicalities of transition to be significant information in weighing up implementation costs and benefits. The reasoning for the AER view that transition to full alignment would not be completed until 2019 is set out in Figure 5.1 below.

Figure 5.1 Transition to Simultaneous Revenue Reviews

State	Current regulatory period	Forthcoming regulatory period	Transitional regulatory period
Queensland	2007-2012	N/A	2012 → 2019
South Australia	2003-2008	2008-2013	2013 → 2019
Victoria	2003-2008	2008-2014	2014 → 2019
New South Wales	2004-2009	2009-2014	2014 → 2019
Tasmania	2004-2009	2009-2014	2014 → 2019

¹⁶⁶ AER Submission pp.10-11

¹⁶⁷ AER Submission pp.10-11

¹⁶⁸ ESIPC Submission pp.3-4

In addition to the practical timing of alignment, the Commission considers the following issues to be relevant in forming a view on whether revenue reset timetables should be aligned for TNSPs:

- Whether there will be material levels of potential augmentations involving multiple TNSPs;
- The effectiveness of the contingent projects mechanism;
- Effectiveness of the NTNDP in supporting the AER revenue determination process; and
- Presence of other factors facilitating (or hindering) consideration of multi-regional investments in a co-ordinated manner, e.g. inter-regional transmission charging arrangements.

The Commission notes that the general lack of support in submissions for simultaneous transmission revenue reviews. It wishes, however, to provide another opportunity for stakeholders to comment on this issue, in the context of more information on possible models for the scope of the NTNDP, before it finalises its recommendation to the MCE in this regard.

The Commission also notes comments made in submissions concerning the timing of distribution revenue determinations. While there may be merit in aligning the distribution and transmission revenue resets for each jurisdiction, consideration of this issue is outside the scope of this Review. The Commission notes that the MCE is finalising the Rules for distribution and considers that this may be an appropriate forum for comment and possible introduction of a mechanism to align the distribution and transmission resets timetables.

The Commission seeks views on:

- The costs and benefits of aligning the timing of TNSP revenue determination, in the context of different models for NTP functions and NTNDP content – and in the light of the considerations identified as relevant by the Commission?
- Whether, and why, the current (or amended) contingent projects mechanism represents an adequate alternative to the alignment of transmission revenue resets?

5.2 National Transmission Planning Functions and the process of AER Revenue Determinations

The COAG response to the ERIG report¹⁶⁹ states that the new national planning arrangements are intended to assist transmission companies when undertaking planning and putting forward their revenue proposals to the AER, to demonstrate

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that projects are aligned with the NTNDP. COAG's response also notes that the AER will have regard to the NTNDP and the advice of the NTP. The NTNDP will not bind the AER in its consideration of the revenue requirements.

5.2.1 Submissions on NTP functions and the process of AER revenue determinations

A number of submissions commented on the possible involvement of the NTP in the AER revenue determination process. ESIPC stated that a key role for the NTP would be providing technical and planning expertise to inform the AER's regulatory revenue determination.¹⁷⁰ NEMMCO stated that the Commission should consider how the plan and assessment done by the NTP could help to streamline the AER revenue determination process.¹⁷¹ The Group's submission stated that the outcomes of the NTP process should play an important role in the economic regulation of TNSPs and stated that TNSPs should be required to give detailed reasons if they make planning decisions that are at odds with those of the national plan.¹⁷²

The AER's submission also addressed this issue. It stated that currently¹⁷³ as part of the revenue reset process the AER reviews the transmission plans prepared by the TNSPs as well as their consistency with plans developed by other bodies.¹⁷⁴ In its submission, the AER raised a concern with this approach.¹⁷⁵ The concern raised was that there is a significant information asymmetry between the TNSPs and the AER which affects its ability to counter balance the potential conflict of interest between the TNSPs planning obligations and their commercial interests as asset owners.¹⁷⁶

The AER considered that the NTNDP should provide a framework to guide network development.¹⁷⁷ The AER also stated that the NTNDP should be sufficiently detailed to allow an understanding of the drivers for network investment and assessment of the merits of the individual augmentation project options proposed by TNSPs as part of their revenue reset applications and AER revenue re-sets.¹⁷⁸ The AER considered that the benefit from a national planner would come from the NTP providing its own analysis and views on the development of the grid.¹⁷⁹ The AER proposed that this would improve the effectiveness of the AER regulatory role and would mean that the

¹⁷⁰ ESIPC Submission, p.2

¹⁷¹ NEMMCO Submission, Attachment 1, p.1

¹⁷² The Group Submission, pp.2-5

¹⁷³ TNSPs conduct their own planning (except for SP AusNet which relies on the augmentation planning undertaken by VENCORP). In South Australia, Electranet has regard to the Annual Planning Report published by ESIPC in preparing its transmission plans.

¹⁷⁴ AER Submission pp.3-7

¹⁷⁵ AER Submission pp.3-7

¹⁷⁶ AER Submission pp.3-7

¹⁷⁷ AER Submission pp.3-7

¹⁷⁸ AER Submission pp.3-7

¹⁷⁹ AER Submission pp.3-7

AER could largely focus on setting capital expenditure allowances by assessing the consistency between the TNSPs proposals and the NTNDP¹⁸⁰.

5.2.2 Discussion of NTP functions and the process of AER revenue determinations

An issue identified by the Commission is whether the advice provided by the NTP should be limited to providing clarification on the NTNDP, or should it be wider and allow the AER to seek advice on a range of matters relating to transmission planning? A related process question is whether TNSPs have the right to present counter-arguments to any advice provided by the NTP.

The Commission considers that this role requires careful consideration, given the potential commercial implications for TNSPs, generators, consumers and other market participants. It is important that there are sufficient safeguards against inefficient investment, including the risk that the presence of an NTP reduces the quality of information provided by TNSPs, and that undue weight is placed on the content of the NTNDP and advice of the NTP. A further issue is, that to be consistent with the MCE direction, the process for the NTP to advise the AER must not constrain the current timeframes for the revenue approval process nor for the NTP to be prescriptive.

These factors mean that any advice would need to be technically robust, independent of any special interests and made in a transparent manner. This has implications for the governance arrangements and resourcing requirements for the NTP.

Consideration of how the Rules should specify the requirement on the AER to have regard to, but not to be bounded by, the NTP and NTNDP when forming a view on TNSPs revenue determination will be required. Ultimately it will be up to the AER to interpret and use the NTNDP in the manner it considers best fulfils its regulatory duties.

The Commission seeks comments on:

- How should the relationship between the AER and the NTP be defined?
- What should be the basis upon which advice is provided, and what should be the status of any such advice? How should this be specified in the Rules?
- What value will such arrangements add to the process of revenue determinations, and are they consistent with the COAG requirements in respect of process timescales?

¹⁸⁰ AER Submission pp3-7

5.3 Consequential changes to Chapter 6A Rules

Chapter 6A of the Rules addresses the economic regulation of transmission services and sets out provisions governing revenue allowances and pricing methodologies.

At the minimum, some drafting changes might be required to recognise the existence of the NTP and NTNDP. The Commission seeks participants views as to whether there are issues relating to the implementation of the new transmission planning arrangements which could require consequential amendments to the current Chapter 6A Rules.

The Commission seeks comments on:

- Whether the implementation of the new arrangements will require any consequential amendments to Chapter 6A of the Rules?

5.4 Inter Regional Charging Arrangements

The implementation of the national planning arrangements and other reforms have the potential to increase the number of strategic investments being undertaken by TNSPs which are justified on the basis of benefits that extend past their own state borders. This is a central issue for the on-going development of a national market and NEM grid. When costs are incurred in one TNSP's area, but market benefits are realised in other regions, then the policy question arises as to how such costs should be recovered. Potentially, the absence of an appropriate cost recovery framework (e.g. inter-regional TUOS payments) might deter TNSPs from assessing and implementing such investments.

In its final report, ERIG concluded 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. The Rules (Clause 3.6.5(a)(5)) currently provide for inter-regional charges to be established through inter-governmental negotiation. However there is currently only one example of this between South Australia and Victoria. Also the current arrangements are subject to a sunset provision (which has been extended more than once).

One finding from the Brattle's Report on International Approaches to Transmission Planning is that overseas markets are placing increasing importance on having a formal cost allocation mechanism that allows for transfer payments between TNSPs. Brattle identified this as a key factor in reducing barriers to successful co-operation between TNSPs.¹⁸¹

¹⁸¹ Brattle Group, *International Review of Transmission Planning Arrangements*, a report for the AEMC, October 2007, page 8. For example, in GB each transmission owner has a regulated revenue allowance, paid by the System Operator, and the system operator sets its tariffs for all users following the same methodology, which is designed to recover the total revenue allowances of the three TOs. In California the cost of new high-voltage transmission wires is spread across all system users irrespective of whether the users are connected to the network which owns the new assets.

Submissions to the Scoping Paper from both VENCORP and ESIPC have also raised the need for the Commission to consider this issue. VENCORP stated that the Commission needs to address how the costs of an augmentation will be allocated.¹⁸² ESIPC stated that the Commission must consider a mechanism that will ensure that the costs of a project are allocated equitably to those who benefit from it.¹⁸³ ESIPC also noted that the ability to transfer costs across regions is a pre-requisite to an effective national transmission scheme.¹⁸⁴

The Commission considers there is merit in considering whether the transmission pricing arrangements need to be capable of allowing for the incremental cost of network augmentation, where the project has been enhanced due to the potential for national benefits, to be met by the beneficiary state(s). In its Chapter 6A review on transmission pricing, the Commission recognised this.¹⁸⁵

Under that Rule Determination, the Commission also considered that there were three options worthy of more detailed examination in relation to the treatment of inter-regional TUoS. These were:

- Adopting a simplified 'rule of thumb' such as splitting the Inter-Regional Settlement Residue (IRSR) equally between the exporting and importing regions to (partially) recognise the benefit the importing region's network users gain from the exporting TNSP's network;¹⁸⁶
- Implementing an inter-regional TUoS pricing arrangement by obliging TNSPs to apply the Customer TUoS Usage Charge to interconnectors. The TNSP in each importing region would pay this charge to the TNSP in the exporting regions and would recover the cost through an addition to the TUoS General charge; and
- Undertaking a full NEM-wide cost allocation exercise for inter-regional TUoS pricing arrangements.

The Commission considered that while the third option was likely to provide the best outcomes, Options 2 and 3 were the most suitable to be developed in the short to medium term.

Although this issue was not principally referenced in the MCE direction it is central to the same underlying issue, i.e. the delivery of a nationally co-ordinated approach to transmission network planning and development. The Commission has a wider

¹⁸² VENCORP Submission, p.16

¹⁸³ ESIPC Submission, p.3

¹⁸⁴ ESIPC Submission, p.3

¹⁸⁵ AEMC, Draft Rule Determination, Pricing of Prescribed Transmission Services Rule, 18 October 2006, p.75-76.

¹⁸⁶ The current Rules allow TNSPs in regions that import electricity, to receive interregional settlement residues (IRSRS) attributed to regulated interconnectors (clause 3.6.5(a)(5)). These amounts must be used by the importing region TNSP to reduce the Customer TUoS General Charge payable by its customers. In return, TNSPs in importing regions are required to pay a negotiated charge to the exporting region's TNSP that reflects the use of the exporting TNSP's network in effectively contributing to the creation of these residues (and benefits to the importing region).

market development duty under the NEL, and it is seeking views from stakeholders in order to establish whether it should supplement its detailed implementation plan for the NTP with any recommendation to the MCE in respect of this aspect of the regulatory regime.

On 26 September 2007, the Commission wrote to the MCE to advise them that the framework for transmission charges between regions was a potential issue for consideration through the process of consultation for the NTP review.¹⁸⁷

The Commission would like to ask market participants for views on the effectiveness of the current arrangements for inter-regional transfer payments and also on the possible approaches to implementing a more formal inter-regional cost allocation and charging mechanism.

The Commission seeks views on:

- Whether the current arrangements for inter-regional transfers between TNSPs are sufficient to support the co-ordinated development of a national grid?
- What would be the best approach to implementing a more formal inter-regional charging mechanism?

¹⁸⁷ A copy of the letter can be found on the AEMC website.

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6 Governance Arrangements

6.1 Introduction

This chapter raises a number of governance issues for consideration as part of this Review. The governance structure and corresponding arrangements for the NTP must be determined before a detailed implementation plan can be finalised. This task involves resolution of a number of issues relating to the NTP. The Commission's framework for resolving them encompasses a consideration of four key questions that may be used to guide decision making on appropriate governance arrangements for the NTP. They are:

- What should be the form and composition of the NTP?
- What level of independence will the NTP have?
- To whom should the NTP be accountable (and how should it be made accountable)?
- What should be the performance review process for the NTP?
- What should be the relationship between the NTP and other stakeholders?

Governance is a method or system of management. The governance arrangements adopted for the NTP will set the framework within which the NTP will carry out its roles and responsibilities. They will include processes for holding the NTP accountable and measuring its performance. Sound governance arrangements are those that will enable the NTP to prepare a NTNDP:

- In an appropriate manner, with a sufficient degree of independence and accountability; and
- That is objective, unbiased, robust, and rigorous and in which stakeholders have confidence.

The Commission is seeking feedback on the views of stakeholders in relation to these governance issues. At this stage the major focus of the Review is on the proposed role and functions of the NTP. The governance arrangements adopted for the NTP will depend, ultimately, on the role and functions assigned to the NTP, and on the relationship between the NTP and the proposed AEMO and other relevant stakeholders.

A key point for this Review is that if the NTP's functions extend beyond gathering and publishing information (a descriptive role) and towards making recommendations, providing advice or even directing parties to take certain action (a directive role), the need for independence and accountability requirements in the NTP increase.

6.2 Background

6.2.1 ERIG's recommendations and COAG's response

The focus for this chapter is on governance arrangements for the NTP that will best enable it to develop the NTNDP within the context set by COAG.

COAG has set some parameters that are relevant for a discussion on the possible governance arrangements for the NTP. One of the recommendations made by the ERIG is that the NTP functions should be incorporated within NEMMCO (noting NEMMCO's functions will be absorbed into the AEMO) and hence part of its structure, subject to acceptable changes to the governance structure of NEMMCO.¹⁸⁸ COAG's response in April 2007 included the statement that the NTP be 'located in' the AEMO.

This could mean that the NTP should be part of the AEMO; with its functions to be carried out by the AEMO. This is the option preferred or assumed in a number of responses to the Scoping Paper such as VENCORP, the ETNOF, the Group, ESAA and NEMMCO. Alternatively it could mean that the NTP should be an entity separate from the AEMO but physically located within the same premises as the AEMO and able to draw from the resources and expertise of the AEMO. It would not be accountable to the AEMO. This is the option preferred by the AER and EUAA in their responses to the Scoping Paper.

The governance framework to be adopted will be the one that best supports the NTP to meet its objectives once they are specified.

6.3 Market Operator Working Group - Australian Energy Market Operator Consultation Paper

The MOWG was established to provide advice to the Standing Committee of Officials of the MCE regarding a proposed AEMO. The MCE must prepare a detailed implementation plan by the end of 2007 for establishing the national energy market operator. COAG has directed the MCE to establish the market operator by June 2009.

The MOWG has prepared a consultation paper on the expected functions and governance arrangements for the proposed AEMO.¹⁸⁹ The governance arrangements adopted for the AEMO are relevant to the consideration of proposed governance arrangements for the NTP (to be 'located in' the AEMO). Some of the key points made in the consultation paper are summarised in Box 6.1.

¹⁸⁸ *Energy Reform: The Way Forward for Australia*. A Report to the Council of Australian Governments by the Energy Reform Implementation Group, January 2007

¹⁸⁹ *Public Consultation Paper on Governance Arrangements for the Proposed Australian Energy Market Operator*, October 2007, prepared by the Market Operator Working Group

Box 6.1: Summary of MOWG's consultation paper

MOWG proposals:¹⁹⁰

- That the AEMO be governed by a board;
- A board structure and selection process for board members to ensure that the board is independent of particular interest groups. It will, though, include sufficient skills and expertise from across the electricity and gas market supply chains;
- That the board will comprise up to ten members, including a non-executive chair and Chief Executive Officer. Three to six board members would be drawn from industry (that is, having current knowledge and experience in the energy sector). The paper is silent on the composition of the remaining directors;
- That the Chief Executive Officer be appointed by the non-executive directors;
- That appointments of board members be for a maximum of three years with an option for a renewal of three years;
- That board members (other than the Chief Executive Officer) be appointed on the recommendation of a five member selection panel consisting of two Government appointed members (decided by the MCE), two members appointed by industry (decided by the industry associations) and an independent chair (an ex-officio appointment based upon that person possessing a good understanding of corporate governance such as the chair of the Australian Institute of Company Directors or the chair of the Australian Securities and Investment Commission);
- That the panel must appoint board members based on an assessment of applicants against a skills matrix;
- That board members would be disqualified on grounds similar to those set out in the *Corporations Act 2001*; and
- That there will be electricity and gas market operations panels. They will assume an advisory role only, with detailed arrangements for their formation and interaction with the board to be determined by the board. It is not clear whether the NTP would be one of these panels.

The consultation paper considers two alternative models for the AEMO– a statutory authority or a company limited by guarantee. In MOWG's view, the accountability arrangements may be structured in such a way so that their design is largely indifferent to whether the AEMO is owned and controlled by Government, by industry or jointly by Government and industry. Additionally, the framework within

¹⁹⁰ *Public Consultation Paper on Governance Arrangements for the Proposed Australian Energy Market Operator*, October 2007, prepared by the Market Operator Working Group, pp. 15-16

which the AEMO will operate will be the same regardless of its structural form.¹⁹¹

6.4 Framework for determining good governance arrangements for the NTP

6.4.1 Role and responsibilities of the NTP will be set out in the NEL/NER

For the purposes of discussion, it is assumed that the NTP will operate within the existing statutory framework regardless of its governance arrangements. That is, the NTP role and responsibilities will be set out in the NEL, the Rules or a combination of both. The level of detail in these legal instruments may vary, however, depending on the governance arrangements adopted. This is the same approach as that adopted in the consultation paper on the AEMO.

6.4.2 The NTP 'located in' the AEMO

A number of the submissions raised the importance of clarity of role and purpose for all relevant parties in the planning process. Each party's responsibilities and scope of work must be defined.

Reasons for having the NTP within the AEMO were highlighted in submissions to the Commission's scoping paper.¹⁹² They include:

- Immediate access to energy market information;
- Access to technical and operational expertise - which is in limited supply; and
- Avoided costs associated with setting up a separate organisation with board and management controls.

Depending on the governance structure adopted, some disadvantages associated with the NTP located in the AEMO (and part of the AEMO) might be:

- Potential conflicts of interest and resources between the planning and operational functions of the AEMO;
- NTP resources could be diverted into assisting with immediate short term operational matters rather than maintaining the long-term focus on the transmission system;

¹⁹¹ *Public Consultation Paper on Governance Arrangements for the Proposed Australian Energy Market Operator*, October 2007, prepared by the Market Operator Working Group, p.23

¹⁹² Arguments in favour of the NTP being part of the AEMO were put forward by VENCORP and the Energy Users Association of Australia

- NTP activities may become less visible or subordinate due to all the other roles of AEMO;
- Accountability and the relationship with the AEMO directors/board (which are likely to be representatives of industry) could be problematic (although the MOWG consultation paper proposes that the board will be independent of any industry sector);
- Conflicts of interest – the views and outputs of the NTP may have commercial consequences for participants in the market.¹⁹³

Determining the appropriate statutory and operational relationship between the NTP and the AEMO will be an important aspect of this Review. Governance arrangements between the two should be compatible.

6.4.3 Facilitating the best governance structure for the NTP

The disadvantages above may be avoided if a suitable management structure is adopted. That structure must ensure that the NTP can carry out its role and responsibilities effectively and with the appropriate level of independence from market participants and other relevant stakeholders. A framework for determining a suitable management structure is set out below. It involves a consideration of the following broad questions:

- What should be the form and composition of the NTP?
- What level of independence is required?
- To whom should the NTP be accountable (and how should it be accountable)?
- What should be the performance review process for the NTP?
- What should be the relationship between the NTP and other stakeholders?

Addressing these broad questions against the NTP functions, once they are known, will facilitate the determination of the best governance structure that will assist in achieving the goals and objectives of the NTP. For present purposes a number of general questions and issues are raised to facilitate stakeholder comment and discussion.

6.4.3.1 Form/composition

The form and composition of the NTP adopted should add value and enable the NTP to meet its objectives. The form and composition of the NTP must enable the NTP to effectively and adequately to discharge its role and responsibilities.

¹⁹³ Possible disadvantages were highlighted by the Energy Users Association of Australia and the Australian Energy Regulator.

The NTP could take a variety of forms. At one end of the spectrum it could be an administrative body within an existing entity (the AEMO). At the other end of the spectrum it could be a separate entity with its own independent board but sharing resources and data with the AEMO. For example the NTP could be:

- An administrative division of the AEMO; i.e., a person or group under the direction of the AEMO;
- An administrative body contained within the AEMO; i.e., effectively part of the AEMO but with defined independence;
- A statutory office holder established under legislation but physically co-located in the AEMO and with resources drawn from the AEMO; or
- A statutory authority established under legislation with its own resources.

A current example of the third and fourth forms described above is the AER located in the premises of the Australian Competition and Consumer Commission.

To assist in determining the appropriate form, a number of factors should be considered. For example, would the NTP functions have sufficient scale and critical mass to be conducted separately and would they warrant the monitoring, reporting and accountability costs associated with good governance of a separate entity? Would there be adequate transparency and independence if the NTP functions were carried out within another body? If not, could the NER include safeguards to ensure that the NTP's functions could effectively be carried out by another entity such as the AEMO? An important factor to consider is that of perception as it will affect the credibility of the NTP.

Depending on the form chosen, the composition of the NTP could be:

- An advisory board, committee or panel (for example advising the AEMO board);
- An individual (in the case of a statutory office holder); or
- A managing board (in the case of a statutory authority).

The composition of the NTP will be determined by factors including the variety and nature of functions the NTP carries out. If the NTP carries out a wide variety of functions in developing the NTNDP then a single office holder may not be adequate. He or she alone may not have the skills and experience to cover all of the NTP functions. It may be more appropriate to have a board or committee so that all required areas of expertise and experience are covered.

If the NTP has a more directive role (rather than descriptive) then a managing board may be more appropriate. A decision of a board rather than an individual may be perceived to have been considered more broadly and factored in all relevant considerations compared to an individual decision maker.

An advisory, committee, board or panel can provide a forum for representation of stakeholder views without being involved in the governance of the body. It may also

assist with fulfilling consultation requirements. In this regard, the ETNOF response to the Scoping Paper suggested that the NTP include a national transmission planning committee. This committee could act as the primary vehicle for communication and consultation with stakeholders. Another advantage of an advisory structure is that it might be simpler to evolve membership and alter arrangements over time; making it easier to respond to a changing environment.¹⁹⁴

Another important matter to consider in this context is how the board members or individual should be appointed. Options include industry appointments, Government appointment following consultation with industry, industry nomination and Government appointment, and a mix of industry and government appointed board members. The option chosen should ensure that there is an appropriate mix of skills and experience and minimise the perception that any member is representing either a specific Government or section of industry.

This latter point is also relevant for consideration of the issue of tenure. The MOWG proposes an appointment term of three years with an option to renew for a further term of three years for the AEMO board. Additionally, the MOWG paper suggests that these appointments should be staggered so that there are always experienced members on the board.¹⁹⁵

The Commission seeks comments on:

- An appropriate form and composition for the NTP to carry out its functions; and
- How board/committee/panel members and office holders should be appointed and for how long.

6.4.3.2 Independence

It is necessary to have an understanding of what is meant by ‘independence’ and the level of independence the NTP requires. From whom should the NTP be independent? Must the NTP be completely independent of the AEMO, TNSP, generator and other interests? Should the NTP be independent of these interests so that it is capable of exercising independent judgement in preparing the NTNDP? That is, it should not be beholden to the views of interested participants and conflicts of interest should be avoided. The NTP must be empowered to question those carrying out its functions and do so systematically. A related issue is that of the level of independence.

If the NTP has a descriptive role one option may be for the NTP to be an administrative division within the AEMO and under the daily direction and supervision of the AEMO board and chief executive officer. The NTP could be governed by a board which included some generation, transmission and other representation. It may be possible to provide an adequate level of independence

¹⁹⁴ ETNOF submission, p.4.

¹⁹⁵ *Public Consultation Paper on Governance Arrangements for the Proposed Australian Energy Market Operator*, October 2007, prepared by the Market Operator Working Group, p.18

through procedural requirements set out in the NER. For example the NER could include procedural requirements to ensure that the NTNDP was prepared in a transparent and open manner with appropriate public consultation and procedural fairness safeguards. As stated by the AER in its response to the Scoping Paper, there must be a balance between expertise in transmission planning and independence from individual network and generation interests.¹⁹⁶ It may be that a lower level of independence is required in order to be sure that the NTP has the resources and expertise necessary to carry out its role and functions.

Alternatively, if the NTP were to have a directive or active role then it is arguable that an adequate level of independence may be obtained only by being a separate entity with its own managing board, as its decisions would directly affect market participants. Perception of a lack of independence or conflict of interest is an important consideration as it would impact on participants' and other stakeholders' confidence in the output of the NTP. In its response to the Scoping Paper, the EUAA stated that a management structure should be set up to maintain the NTP's independence from TNSPs and dominant market participants.¹⁹⁷

If the NTP were to have an active role in determining preferred and actual transmission investments a question would arise regarding potential conflicts of interests with AEMO. The AEMO will be principally responsible for the security of the power system. A high level of investment in the transmission system would enhance the security of the power system. However, the AEMO is not accountable for ensuring that investments in the transmission system are efficient. TNSPs are held accountable for the efficiency of transmission investments through the application of the Regulatory Test and the economic regulation of the AER under Chapter 6 of the NER. The governance framework for the entire NEM needs to ensure that the potentially competing objectives of security and reliability of supply and efficient use of and investment in network infrastructure are reconciled in a balanced manner. The governance framework for and independence of the NTP needs to sit within and be consistent with this broader governance framework.

As a general proposition it is important to strike a balance between establishing a body's independence while at the same time enabling it to govern efficiently. For the NTP, it will be crucial to strike the appropriate balance between expertise in transmission planning issues and independence.

The Commission seeks comments on:

- The level of independence required for the NTP to carry out its functions.

6.4.3.3 Accountability

It will be necessary to determine appropriate accountability mechanisms. This involves determining:

¹⁹⁶ AER submission, p.6.

¹⁹⁷ EUAA submission, p.24.

- To whom should the NTP be accountable?
- For what should the NTP be accountable?
- How should the NTP be held accountable?
- Who should hold the NTP accountable?

Depending on the form of the NTP it will be primarily accountable to those who established it (the members of the AEMO if the NTP is an administrative division within the AEMO) or those who created it (Parliament in the case of a statutory office holder or statutory authority).

The NTP will be accountable for the development and finalisation of the NTNDP, and any other assigned functions, in accordance with the requirements set out in the NEL, the Rules and any other relevant laws.

One means of establishing effective accountability arrangements for the NTP is to clearly specify the NTP's functions and powers in the NEL and the Rules, so that if the NTP is not performing functions properly it can be subject to challenge through relevant legal or dispute resolution processes. Requirements for transparent planning and reporting processes can also be elements of an effective accountability regime. To establish effective accountability arrangements for the NTP, consideration could be given to including in the NEL and Rules requirements such as:

- Specification of the NTP objective, role, functions, obligations and legal powers. If there is to be a board, meeting and decision-making processes could also be included;
- Planning and reporting obligations including an annual report on operations and finances;
- Processes for approving budgets and reporting against approved budgets;
- The requirement to publish a charter or guidelines on NTNDP processes including consultation and methodology; and
- Legal enforcement and dispute resolution processes and forums.

Other elements of an accountability regime for the NTP that could be considered include:

- **Performance reviews** – The MCE plans to undertake a review of the NTP after five years. In this vein it may be appropriate to consider an independent periodic evaluation or review of how the NTP carried out its functions in preparing the NTNDP, particularly if its functions are carried out by the AEMO; and
- **Administrative review** - If the framework for the NTP is in the NEL and the Rules there are also accountability mechanisms through the exercise of law. For example, it could be subject to the principles of administrative law in a manner similar to the Commission or the Australian Energy Regulator. If the

NTP has a directive role should merits review apply or should review of its decisions be limited to judicial review?

Finally, when considering accountability, the impact of reputational damage should not be underestimated.

The Commission seeks comments on:

- Appropriate forms of accountability for the development of the NTNDP.

6.4.3.4 Relationship / context with other organizations

A large number of the responses to the Scoping Paper raised the issue of the relationships between the key parties as crucial to the success of the NTP¹⁹⁸. The key terms of the relationship between the NTP, the AEMO, TNSPs, consumers, jurisdictional planning bodies, the AER, the MCE and the AEMC must be determined as part of the governance arrangements as well as other existing arrangements such as the IRPC and the NRPP. Each entity's responsibilities and scope of work (if any) must be clear. This imperative was included in a number of the responses.

It is possible that developing and clarifying the relationships between the relevant stakeholders may go a substantial way to ensuring the necessary degree of independence and transparency for developing the NTNDP. Effective consultation and communication between the relevant stakeholders may reduce the need for 'heavier' management structures.

As referred to above, the ETNOF propose that one of the NTP functions should include the establishment of a national transmission planning committee chaired by the NTP. Such a committee could act as the primary vehicle for communication and consultation with stakeholders.¹⁹⁹ It might be a way to avoid overlap with existing functions (where possible). Governance arrangements that provide for more direct stakeholder participation will be favoured by most stakeholders, based on the responses to the Scoping Paper.

In its response to the Scoping Paper NEMMCO suggested that the NTP should consult closely with the relevant stakeholders on the information that should be published from time to time. The NTP should carry out this consultation in accordance with formal consultation arrangements to ensure that all relevant stakeholders have an opportunity to provide input. Also there should be sufficient time for analysis of that input and relevant data to develop the plan in timely

¹⁹⁸ Including the responses of the Electricity Transmission Network Owners, the APA Group, the Australian Energy Regulator and NEMMCO.

¹⁹⁹ ETNOF submission, p.4.

manner. NEMMCO stated that timing requirements should be factored into these formal consultation arrangements.²⁰⁰

Finally, regardless of the governance model adopted, the NTP will have to draw resources from the AEMO. Even if an independent model is adopted, AEMO staff may carry out many of the tasks of the NTP. This particular relationship will need to be carefully considered, especially the practical aspects of it. The AEMO must be required to make available the necessary resources to enable the NTP to carry out its responsibilities effectively. That may mean, for example, ensuring that the relevant resources are appropriately experienced/skilled and 'ring fenced' from other parts of the AEMO. If an independent model is adopted for the NTP, consideration must be given to the extent to which the NTP will need its own staff to support its board/officeholder or whether formal secondment of relevant staff to the NTP would be appropriate. Once these matters are resolved, this relationship should be documented in an appropriate instrument; for example a Memorandum of Understanding or service level agreement, depending on how legally binding the arrangements would be.

The Commission is interested in views on:

- What should be the consultation arrangements between the relevant stakeholders and the NTP. Should these consultation arrangements be documented in the NER or another instrument?

6.5 Funding

The funding arrangements adopted for the NTP should be proportional to its role and responsibilities. Costs and budgets for the NTP will depend on the functions given to the NTP and its governance arrangements (in particular, whether it is effectively part of the AEMO or a separate entity).

To the extent possible, funding arrangements should replicate existing arrangements (current NEMMCO's costs in facilitating national planning, e.g. the production of the ANTS, is funded by industry via payment of market charges to NEMMCO). In this regard, a realistic option is that the NTP will be funded by industry via fees paid by market participants to the AEMO. The AEMO consultation paper contains a discussion on principles for funding.

The MOWG has proposed that the AEMO Board consider and develop the detail in relation to AEMO funding requirements subject to the following key principles:

- Funding should be on a cost recovery basis and also so as to provide for the AEMO's budgeted revenue;
- The fees charged to particular persons should be reflective of the cost of the service AEMO provides to each fee payer and there should be ring fencing of the cost of each function to the extent required;

²⁰⁰ NEMMCO submission, NTP Issues Paper, pp.2-7.

- There should be no cross subsidies across industries and jurisdictions;
- The fees should be competitively neutral as between fee payers and foster economically efficient outcomes in the national energy market; and
- The fee structure should be simple, to the extent that is consistent with the other principles.²⁰¹

If the NTP is an entity separate from the AEMO it will be necessary to provide a mechanism for the transfer of funds from the AEMO to the NTP so that the NTP has the resources necessary to carry out its responsibilities. This will depend on the extent to which the AEMO provides resources to the NTP for the development of the NTNDP. It will be necessary to develop a process for approval of NTP budgets, accountability for the expenditure undertaken and reporting on costs incurred and charges imposed to recover funds. This could be facilitated if, as suggested above in the accountability discussion, the Rules covered requirements for approving budgets and reporting against budget requirements.

The Commission seeks comments on:

- Should the NTP have a separate budget and accounting requirement?
- As the contemplated NTP functions deal with electricity transmission only, should gas market participants also contribute to the NTP's costs?

²⁰¹ *Public Consultation Paper on Governance Arrangements for the Proposed Australian Energy Market Operator*, October 2007, prepared by the Market Operator Working Group, p. 51

7 Implementation and Transition Issues

The purpose of this chapter is to identify and seek views on issues relating to the implementation of, and transition to, the new national planning arrangements.

At this stage of the Review, the major focus is on the proposed role and functions of the NTP. The detail of implementation and transition will depend on the model adopted for the NTP, and on the relationship between the NTP and the proposed AEMO and other relevant stakeholders. The Commission has, however, identified a number of generic implementation and transition issues which can be considered constructively at this stage.

As noted in Chapter 1, the Commission will establish an implementation working group to advise on implementation and transition issues.

7.1 Enabling Powers for NTP

This Issues Paper discusses a range of possible roles and functions for the NTP. As noted in Chapter 6, such functions are likely to be set out across the NEL and the NER. It will be important to get an appropriate balance between the NEL and NER with respect to defining NTP roles and functions. In particular, to what extent should NTP functions be subject to the Rule Change Process - and hence capable of change over time.

In its submission, NEMMCO commented that the content of the NTNDP that directly supports the national transmission planning process should be viewed as essential, distinguishing it from other optional content.²⁰² It thought that classifying content in this manner may be useful as it would allow obligations for producing the essential content to be assigned through Rules while a less prescriptive approach could be adopted for optional content. This would allow optional content to evolve over time in response to submissions received via the annual consultation on the NTNDP.

The Commission seeks views on:

- The appropriate balance between the NEL and NER for defining the NTP's role and functions; and
- Should the NTP functions be subject to the Rule Change Process.

7.1.1 Information Powers

A number of submissions considered that the NTP will need significant information and discovery powers in order for it to fulfil its functions. VENCORP and The Group stated that the NTP needs substantial information from asset owners to undertake necessary power system analysis and advised that the NER should be amended to

²⁰² NEMMCO Submission, NTP Issues Paper, p.12

give NTP provision of information powers.²⁰³ ESAA stated that the NTP will need proper arrangements to enable the efficient and timely provision of appropriate information of JPBs to NTP.²⁰⁴

An implementation scheme which obliges the NTP to undertake certain functions, but does not provide it with access to information required to undertake such functions efficiently, is not sustainable. There are a number of issues relating to how a sustainable set of functions is established, involving greater or lesser degrees of codification and formality, e.g. the use of memoranda of understanding (MoU) versus definition in the NER. An overarching consideration is to establish an information framework which is effective, but proportionate in the rights and obligations it creates.

The Commission seeks views on:

- Whether, and if so how and where, should the information requirements of the NTP be defined?
- What, if any, powers should the NTP have to request or require information? And what obligations should parties have in respect of any such requests or requirements? Where should these rights and obligations be defined?
- What should the relationship be between information held by AEMO and information available for use by the NTP?

7.1.2 First Publication Date for NTNDP

The COAG Communiqué envisages the establishment of the National Transmission Planner by June 2009. Issues to be considered include:

- When should the first NTNDP be published?
- Is it appropriate to continue to publish a SOO, ANTS and APRs in 2009, and how should these documents relate to the first NTNDP?

Another issue which NEMMCO raised is whether the first NTNDP should have a reduced scope compared to subsequent versions of the document.²⁰⁵ NEMMCO commented that the first ANTS was published by NEMMCO in 2004, with the scope and content determined through preliminary consultation with stakeholders. This document was produced ahead of the establishment of Code obligations requiring the publication of the ANTS. It was essentially a demonstration document developed to provide a basis for future consultation on the scope and content of the

²⁰³ VENCORP submission, pp.14-15; The Group submission, p.6.

²⁰⁴ ESAA Submission, p.2.

²⁰⁵ NEMMCO Submission to AEMC NTP Scoping Paper; National Transmission Planner-Issues Paper, p.13

ANTS. NEMMCO asked whether a similar approach would be appropriate for the NTNDP.

The Commission seeks views on:

- The appropriate first publication date for NTNDP; and
- The appropriate approach to developing the first NTNDP and What level of industry consultation should be allowed.

7.1.3 Advisory Panels

Another implementation matter is whether the NTP should have the ability to call advisory panels to assist it in exercising its functions.

ETNOF stated that TNSPs are currently closely involved with the production of the ANTS through the IRPC. It commented that this strong participation should continue with the production of the National Plan to avoid situations such as proposing theoretical augmentations that are impractical on technical or environmental grounds. ETNOF considered that the NTP should have a National Transmission Planning Committee similar to ESIPC Board.²⁰⁶

The Commission seeks views on:

- Should the NTP have the ability under the Rules to establish advisory panels? And what should the status/transparency of such panels be?

7.1.4 Jurisdictional Exemptions

The transfer of VENCORP functions into AEMO will also raise consequential issues for the significant derogations to transmission revenue and pricing rules under Chapter 6A of the NER, the Victorian Electricity System Code, the transmission licences for VENCORP and SP AusNet issued by the ESC under the Electricity Industry Act 2000 (Victoria), and other State guidelines (such as the ESC's Guideline 18 on Augmentation and Land Access). Similar issues may arise in South Australia if there are any changes to the role of ESIPC. The Commission considers that such issues related to the establishment of AEMO and are outside the scope for this Review.

²⁰⁶ ETNOF submission, p.4.

7.2 Transition Issues

7.2.1 National Transmission Planning Function

NEMMCO's submission raised the following issues:

- The role of the NTP in AEMO is greater than the transmission planning role currently performed by NEMMCO and it may be difficult to secure sufficient additional resources to implement fully the new process from June 2009; and
- Transitional arrangements should allow the existing arrangements for planning and development of the transmission network to continue while the new arrangements are established.

The Commission seeks views on:

- What are the main reasons why a 'hard' cut-over to the new arrangements might not be feasible, or otherwise appropriate?
- What specific transitional measures might be required to resolve any such difficulties with a 'hard' cut-over to the new arrangements?

7.2.2 Revised Project Assessment and Consultation Process

No submissions commented on transitional arrangements for moving to a revised project assessment and consultation process. This may be in part because the AER's revised Regulatory Test (Version 3) was not finalised, so the nature of transitional arrangements from that instrument to the new framework are too uncertain to warrant specific comment.²⁰⁷

The Commission seeks views on:

- What are the reasons why transition from the current Regulatory Test to a new Regulatory Investment Test might require explicit management?
- What issues would need to be provided for in such a transition plan?

²⁰⁷ AER issued the finalised version 3 of the Regulatory Test on 2 November 2007.

8 Illustrative models for a National Transmission Planner

8.1 Introduction

This chapter draws together the discussion of issues in Chapters 3 to 7 to define a number of illustrative models for the scope of functions to be undertaken by the National Transmission Planner. The purpose of these illustrative models is to provide focal points for consultation to assist submissions and analysis. These models do not indicate the Commission's views or suggest that these are the only models that would be considered.

All four illustrative models represent points on a spectrum of possible options which, it could be argued, are consistent with the Terms of Reference provided by the MCE to the Commission. The range of illustrative models chosen reflects and consolidates the broad range of views expressed through submissions to the Commission's previous Scoping Paper.

The models focus on the possible design of the national transmission planning function. There are other issues discussed in the Paper that need to be addressed by the Review which are not reflected in the discussion on the models (i.e. the reforms of the Regulatory Test and inter-regional charging arrangements). The resolution of such issues are common to the illustrative models presented.

8.2 Model dimensions

The illustrative models summarized below are defined across a number dimensions relating to the following:

- The content of the NTNDP;
- The role of the National Transmission Planner in relation to the Regulatory Investment Test;
- The range of functions in addition to production of the NDNTTP; and
- The commensurate governance arrangements.

8.3 NTNDP content

The primary function of the NTP is to produce the NTNDP each year. The specification of what the NTNDP must contain is a key consideration. The content of the plan can be considered in terms of the following:

8.3.1 Duration

The Terms of Reference specify that the NTNDP shall have a planning horizon of not less than 10 years. This does not preclude a planning horizon longer than 10 years,

and one of the illustrative models adopts a 20 year horizon for the NTNDP. This issue has been discussed in section 3.4.2.

8.3.2 Range of planning scenarios

All planning activities require assumptions to be made as to the state of the world that is being planned for. For example, the NTNDP will require assumptions to be made about the location of demand (load) and supply (generation) on the network, and how these factors evolve over time. The NTNDP might consider a wide range of possible states of the world, or might consider a narrow range of future scenarios. Section 3.2 discusses this matter.

8.3.3 Operational definition of ‘national’ versus ‘regional’

The contradistinction drawn in the Terms of Reference between ‘national’ and ‘regional’ planning provides clear guidance that the NTNDP will not cover all transmission planning issues, but rather a sub-set of planning issues relating to national issues. In practical terms, this requires a boundary between national and regional planning to be clearly defined.

The illustrative models summarised below make use of two means of defining this boundary. First, by defining ‘national’ to be any investment decisions affecting the physical assets on (appropriately defined) National Transmission Flow Paths (NTFPs). Second, by applying a threshold test based upon specified criteria, to identify on a case-by-case basis whether a particular planning issue relates to investment(s) which could have a material impact on inter-regional flows. These approaches are discussed in section 3.1.2.

8.3.4 Scope of the NTNDP

The scope of the planning issues to be covered in the NTNDP might also be defined in terms of types of investment and also the extent to which the plan addresses the wider development of the power system which includes generation, gas network and non-network solutions.

Transmission network planning can include a range of activities; asset management related planning, connection point planning, main grid planning, easement acquisition etc. The question is should the national planner assess just main grid augmentations or all aspects of transmission planning. The NTNDP might be limited to exclude, for example, asset replacement and connection assets. Alternatively, it might encompass all assets that meet the threshold test, irrespective of how they are labelled. Section 3.3 contains the discussion on this issue.

8.3.5 Specificity of content

Consideration is also required as to how rigorous, complete and precise the content of the NTNDP should be. The Terms of Reference stipulate that the plan will include information on the transmission capability of the network and it does not prescribe

the level of detail to be included in the plan beyond that. Several options for the level of specificity of the NTNDP would be consistent with the COAG direction.

There are a range of possibilities from discussion of TNSP-identified 'conceptual augmentations' (as occurs currently in the ANTS) through to the NTP unilaterally developing its own modelling and analysis to consulting on options, and then also identifying specific preferred investment solutions.

8.4 Regulatory Investment Test and Possible NTP Involvement

The Terms of Reference stipulate that the NTP will take on functions of the Inter-Regional Planning Committee (IPRC). The IPRC has some limited functions in respect of the how the Regulatory Test is conducted, and in respect of the exercise of the Last Resort Planning Power (LRPP). A minimum change model for the NTP will involve a straight transfer of these functions.

There are other approaches, however, which enhance the role of the NTP in the (reformed) Regulatory Test and the associated LRPP. These include the NTP identifying and quantifying national market benefits on behalf of the proponent to an approach which involve the NTP undertaking the Regulatory Test in some instances, including by agreement with the relevant TNSPs. This issue was covered in more detail in section 4.2.

8.5 Ancillary functions

While the primary function of the NTP is the production of the NTNDP, there are a number of ancillary tasks which could be included within its scope of functions. These include an advisory role to AER to assist it in its revenue determinations. Other possible roles include an advisory role to the MCE, the publication of the SOO, and for the NTP to act as an independent monitor and co-ordinator of cross-border investments. Possible ancillary roles for the NTP were discussed in section 3.6.

8.6 Governance

The appropriate governance framework for the NTP will be dependent on the scope of its functions. A high-level, multi-scenario NTNDP will have a different set of issues and concerns in respect of independence and accountability to an NTNDP which includes detailed specification of transmission solutions.

These models are intentionally high level at this stage. A number of more detailed aspects of the governance arrangements have not been reflected in these illustrative models. For example, issues such as the framework for resources sharing between NTP and AEMO, and the appropriate balance between the NEL and NER in establishing and defining the NTP role and functions. Illustrative models

Table 8.1 summarises four illustrative models for the scope of functions to be undertaken by the NTP in respect of the content of the NTNDP, the involvement in the Regulatory Test and LRPP, and the scope of ancillary functions. Each model

includes a description of a governance framework that might be considered commensurate to the scope of functions.

The Commission would welcome submissions in respect of these illustrative models, and any relevant variants or alternatives (including hybrids formed of different aspects of the illustrative models), with reference to the criteria discussed in Chapter 1:

- 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 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.

Table 8.1: Illustrative models for the National Transmission Planner

	Model 1	Model 2	Model 3	Model 4
1. CONTENT of PLAN				
a) Duration	20 years	10 years	As Model 2	10 years
b) Scenarios	Wide – high and low probability scenarios	Narrow – focus on high probability scenarios	As Model 2	Highly focused – such that particular investment solutions can be identified
c) How is ‘national’ defined?	As today – focus on NTFPs	Threshold impact on inter-regional flows	As Model 2	As Model 2
d) How specific?	Describes network capability and Discuss conceptual augmentations identified by TNSPs	Describe network capability. Own modelling and identify possible projects	As Model 2 – plus identify solutions if task delegated to it by TNSP	Describe network capability Identify options and best augmentation solutions
e) Over what range of assets?	Network augmentations	Network augmentations (and substitutes for network augmentations)	Network augmentations (and substitutes). Increase gas network and generation focus	Same as Model 3 plus planning of NCAS
2. NTP INVOLVEMENT in REGULATORY TEST	No involvement in application of regulatory test. NTP takes over IRPC advisory role on LRPP	NTP identifies and publishes information on national market benefits.. NTP ability to exercise LRPP	As Model 2 – plus obligation to run Reg Test if delegated to it by TNSP	Has obligation to run Reg Test in respect of solutions it identifies. LRPP function disappears.
3. NTP ANCILLARY FUNCTIONS	Existing IRPC functions Advice to AER role limited	Existing IRPC functions Advice to AER role limited	As Model 2 plus developing common planning methodology and co-ordinates inter-regional investments.	As Model 3 plus general advice to MCE and Publication of the SOO
4. GOVERNANCE	Administrative body within AEMO reporting to (and appointed by) AEMO board.	Defined (ring fenced) Board/Panel/ Committee within the AEMO with independence	Defined Board/Panel/ Committee or Defined Office Holder (ring fenced) within the AEMO with independence	Statutory authority or office holder – appointed through process specified in enabling legislation.

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Dr John Tamblyn
Chairman
Australian Energy Market Commission
PO Box H166
AUSTRALIA SQUARE NSW 1215

RECEIVED

6 JUL 2007

3 - JUL 2007

Dear Dr Tamblyn 

Thank you for your letter of 9 May 2007 to the Chair of the Ministerial Council on Energy (MCE) Standing Committee of Officials setting out the Australian Energy Market Commission's (AEMC) proposed work program to respond to the decision of the Council of Australian Governments (COAG) that a National Transmission Planner be established as part of enhanced national transmission planning and regulation arrangements.

As you would be aware, on 13 April 2007 COAG asked the MCE to request the AEMC to develop a detailed implementation plan for the national transmission planning function, as specified in the COAG decision. This includes changes to the transmission planning arrangements, regulatory arrangements, and the form and application of the current Regulatory Test. COAG also asked the MCE to have the AEMC undertake a review of transmission network reliability standards, with a view to developing a consistent national framework for network security and reliability.

Task

Pursuant to Section 41 of the National Electricity Law, the MCE directs the AEMC to:

- a. Conduct a review into the development of a detailed implementation plan for the national electricity transmission planning function, including the most appropriate legislative amendments and Rule-changes to implement COAG's response to ERIG's Electricity Transmission Planning and Regulation recommendations (Heading 3 in **Attachment A**). The AEMC's advice must be consistent with COAG's response.
- b. Conduct a review into electricity transmission network reliability standards, with a view to developing a consistent national framework for network security and reliability.

In conducting the reviews, the AEMC should address COAG's decisions on electricity transmission planning and regulation in full. Given the relationship between the transmission planning regime and market development, investment and locational decisions, the AEMC should also take into account other relevant reviews, including:

- The Congestion Management Review; and
- The Comprehensive Reliability Review.

Consultation

MCE Secretariat

GPO Box 9839 CANBERRA ACT 2601
Telephone: (02) 6213 7789 Facsimile: (02) 6213 6689
E-mail: MCE@industry.gov.au
Web Site: www.mce.gov.au

The review should also involve the AEMC:

- Consulting on a regular basis with jurisdictional representatives and the MCE Standing Committee of Officials; and
- Consulting and engaging with stakeholders under the AEMC review consultation procedures.
 - To assist in the development of the national transmission planning function and the national framework for electricity transmission reliability standards, the AEMC consultation process should include engagement with industry participants, experts and special interest groups and organisations such as the Australian Energy Regulator, the National Electricity Market Management Company, VENCORP, the Electricity Supply Industry Planning Council and Transmission Network Operators. The AEMC should also liaise with the National Market Operator Working Group.

Timing

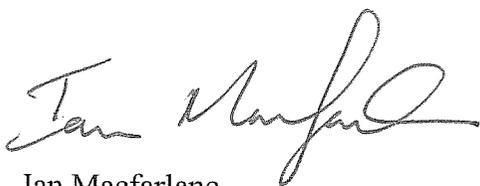
The MCE requires the AEMC to seek formal stakeholder response and consultation as follows:

- Release a Scoping Paper covering the National Transmission Planning Function and the National Framework for Electricity Transmission Reliability Standards by 31 July 2007.
- Release an Issues Paper covering the National Transmission Planning Function and the National Framework for Electricity Transmission Reliability Standards by 31 October 2007.
- Hold at least one public forum, following the release of the issues paper.
- Release a Draft Report on the National Transmission Planning Function for public consideration by 28 February 2008.
- Provide a Final Report on the National Transmission Planning Function to MCE by no later than 30 June 2008.
- Release a Draft Report on the National Framework for Electricity Transmission Reliability Standards for public consideration by 31 July 2008.
- Provide a Final Report on the National Framework for Electricity Transmission Reliability Standards to MCE by no later than 30 September 2008.

Funding

As you would be aware, the Prime Minister has agreed to Commonwealth funding for this work of up to \$1.5 million. I understand that the AEMC has been in discussions with the Department of Finance and Administration to finalise costings.

Yours sincerely



Ian Macfarlane

Council of Australian Governments' response to the final report of the Energy Reform Implementation Group

Attachment A sets out the Council of Australian Governments' (COAG) response to the final report of the Energy Reform Implementation Group, as contained in the COAG Communiqué of 13 April 2007.

ENERGY REFORM IMPLEMENTATION GROUP – COAG RESPONSE

At its meeting on 10 February 2006, COAG agreed that, while structural reforms taken under the National Competition Policy and other COAG initiatives have significantly improved the efficiency of the energy sector, further reform is needed to ensure Australia retains secure energy markets and relatively low electricity and gas prices. To this end, COAG recommitted to the broad ranging reforms being implemented by the Ministerial Council on Energy (MCE) and established the Energy Reform Implementation Group (ERIG) to develop proposals for:

- achieving a fully national electricity transmission grid;
- measures that may be necessary to address structural issues affecting the ongoing efficiency and competitiveness of the electricity sector; and
- any measures needed to ensure transparent and effective financial markets to support energy markets.

COAG thanked the Chairman of ERIG, Mr Bill Scales AO, and the panel members, Mr Geoff Carmody, Mr David Swift and Mr Alan Rattray for their report and for their extensive consultations across industry and government.

ERIG found that Australia's energy market is respected internationally as one of the most competitive and efficient in the world. However, COAG has accepted ERIG's view that there is scope for further reform to maintain productivity improvements and better equip Australia for its future energy needs. In response to the report, COAG has agreed to a broad ranging reform agenda that will improve competition, governance, infrastructure planning and the financial markets within the energy sector to provide a stronger industrial base for Australia's future prosperity.

1. Governance

COAG affirmed its confidence in the new energy market governance arrangements created in 2004-05 and noted that the Ministerial Council on Energy (MCE) as policy-maker and legislator, the Australian Energy Market Commission (AEMC) as rule-maker and market developer, and the Australian Energy Regulator (AER) as economic regulator, are all performing well.

COAG noted that, consistent with ERIG's recommendations, the MCE has recently completed an efficiency review of the AEMC and committed a significant increase in funding and is currently progressing amendments to AEMC rule-making legislation to assist the AEMC to better manage its workload. COAG also notes that the MCE is utilising independent expert groups to assist in the energy market reform program where appropriate.

In addition, COAG has endorsed a number of ERIG's recommendations to further improve energy market governance through the following commitments:

- establishing a National Energy Market Operator (NEMO);

- ensuring the governance arrangements for the NEMO involve market participants in board appointment processes, in a manner that preserves the board's independence from any particular market participant;
- introducing a national transmission planning function; and
- strengthening its commitment to energy market reforms through a requirement for the MCE to report annually on progress in implementing energy reforms to the COAG Reform Council to ensure agreed timelines are met.

COAG considers that these new governance arrangements will provide a solid foundation for the long term development of Australia's energy market. The performance of the new energy market governance arrangements will be examined five years after their commencement.

COAG noted ERIG's advice on the significant potential benefits arising from privatisation and/or disaggregation of energy assets remaining in government ownership. COAG agreed that any decision on privatisation or disaggregation initiatives is a matter for individual governments.

2. National Energy Market Operator

COAG has agreed to establish a single industry funded NEMO, for both electricity and gas, to strengthen the national character of energy market governance. COAG has tasked the MCE with developing, in consultation with stakeholders, a detailed implementation plan by the end of 2007 for establishing the NEMO with:

- the NEMO's functions to encompass:
 - responsibility for the day to day operation and administration of the power system and electricity wholesale spot market in the National Electricity Market (NEM) (as currently performed by the National Electricity Market Management Company (NEMMCO)), and
 - the planned Gas Market Operator (GMO), as well as the new national transmission planning function; and
- consideration to staging the establishment process for the NEMO with a transitional GMO, based on consultation with stakeholders.

The creation of the NEMO recognises the convergence of regulatory frameworks for gas and electricity as well as the economies of scale and scope arising from a single interface with energy industry participants. COAG agreed with ERIG that the NEMO should include stronger stakeholder participation and responsiveness, and has asked the MCE to develop:

- a process for appointment of an independent skills-based NEMO Board with a balanced mix of industry and generalist expertise, appointed under statutory conditions by the MCE; and
- a Market Operations Panel (or panels) for electricity and gas, to advise the NEMO Board.

COAG noted the MCE's progress in considering the establishment of a national Gas Market Operator (GMO). The GMO, if established, would be expected to subsume the gas market functions of VENCORP, the Gas Market Company (GMC) and Retail Energy Market Company (REMCORP), and have responsibility for the operation of a bulletin board and short term trading market for gas. COAG agrees with ERIG that the development of the NEMO should not delay implementation of these significant gas market development initiatives.

3. Electricity Transmission Planning and Regulation

Development of a national electricity transmission grid (excluding WA and NT) has been central to energy market reform over the last decade. ERIG has made a number of recommendations to enhance national transmission planning and regulation.

COAG has agreed to establish an enhanced planning process for the national electricity transmission network to ensure a more strategic and nationally coordinated approach to

transmission network development, providing guidance to private and public investors to help optimise investment between transmission and generation across the power system.

The National Transmission Planner, located in the NEMO, will be required to develop a strategic National Transmission Network Development Plan (NTNDP) outlining the broad development of the power system, including the current and planned future capability of the national transmission network and development options. The NTNDP will be produced after wide consultation with relevant stakeholders, have a minimum outlook of ten years and be updated and released annually.

These new arrangements will be designed to provide an appropriate balance between the delivery of a coordinated and efficient national transmission grid, and local and regional reliability and planning requirements, and be flexible enough to respond to generation and load changes. They will replace the current Inter Regional Planning Committee and Annual National Transmission Statement.

The NTNDP will provide information to the market on the longer term efficient development of the power system in order to guide network investment decisions and provide signals for efficient generation investment. The NTNDP, however, will not replace localised transmission planning, bind transmission companies to specific investment decisions, override TNSP performance obligations, or constrain the timeframes for the revenue approval process of the transmission companies. Accountability for transmission investment, operation and performance will remain with the transmission network service providers.

These arrangements are intended to assist transmission companies, when undertaking planning and putting forward their revenue proposals to the AER, to demonstrate that projects are aligned with the NTNDP. In turn, the AER will have regard to the NTNDP and the advice of the National Transmission Planner when making revenue determinations. The NTNDP will not bind the AER in its consideration of the revenue requirements of the TNSPs.

The new arrangements will be informed by the congestion management scheme (under review by the AEMC) and efficient behaviour will be rewarded through the service incentive regime (under development by the AER). The merits of aligning transmission revenue determination timetables will be considered.

COAG has also agreed to a revised network planning and consultation process, replacing the current 'Regulatory Test'. The AEMC will be tasked with advising on amalgamating the Regulatory Test criteria of reliability and market benefits and broadening the latter's definition to include national market benefits. This will allow proposed transmission projects to be assessed against meeting both local reliability standards and their ability to maximise benefits to the national market. This is intended to recognise the broader national benefits which may be achievable from investment opportunities whilst encouraging and ensuring those justified solely on reliability grounds are delivered in an efficient and timely manner.

COAG further agreed that, under the new transmission planning arrangements:

- accountability for jurisdictional transmission investment, operation and performance will remain with transmission network service providers;
- where possible, the new regime must at a minimum be no slower than the present time taken to gain regulatory approval for transmission investment;
- the new regime must not reduce or adversely impact on the ability for urgent and unforeseen transmission investment to take place;

- the roles of VENCorp in Victoria and ESIPC in South Australia, in regard to those jurisdictions, need not be changed and the new arrangements will not impose inefficient restrictions requiring additional resources; and
- the commercial arrangements relating to Basslink in its capacity as a merchant interconnection should not be altered.

COAG has also committed to reviewing the effectiveness of these arrangements after five years of operation, with a view to making further improvements if necessary.

ERIG has also recommended that the AEMC Reliability Panel review jurisdictional transmission reliability standards and develop a consistent national framework. COAG agreed that this review should be progressed, but with appropriate caution noting the different physical characteristics of the network, existing regulatory treatments in balancing reliability and costs to consumers, and that these standards underpin security of supply.

In summary, COAG has asked the MCE to:

- task the AEMC, in consultation with the AER, NEMMCO and other stakeholders, to develop a detailed implementation plan for the establishment of a national transmission planning function within the NEMO, including proposed amendments to the relevant Law and Rules for decision by the MCE;
- include the following features in the direction to the AEMC:
 - development of a strategic NTNDP, with annual updates;
 - amalgamating the Regulatory Test criteria of reliability and market benefits and broadening the latter's definition to include national market benefits;
 - consideration of alignment of regulatory periods to further reinforce the national character of the planning arrangements;
 - where possible, the new regime must at a minimum be no slower than the present time taken to gain regulatory approval for transmission investment;
 - provision for urgent and unforeseen investment to be made, when required;
 - the NTNDP will not be binding on transmission companies;
 - the AER will have regard to the NTNDP when making revenue determinations (the NTNDP will not bind the AER in its consideration of the revenue requirements of TNSPs);
 - preservation of the jurisdictional roles of VENCorp and ESIPC; and
 - leaves accountability for transmission investment, operation and performance with transmission service providers.
- task the AEMC with reviewing transmission network reliability standards with a view to developing a consistent national framework for network security and reliability, for MCE decision.

8. Timeline

Reform	Date
1. Governance <ul style="list-style-type: none"> • MCE to provide annual progress reports to COAG on energy market reforms • COAG Reform Council annual report to include energy market reform 	Dec 2007
2. National Energy Market Operator <ul style="list-style-type: none"> • MCE to develop detailed implementation plan • Establish National Energy Market Operator 	Dec 2007 June 2009
3. Transmission Planning and Regulation <ul style="list-style-type: none"> • MCE to task the AEMC with development of new regime 	June 2007

<ul style="list-style-type: none"> • AEMC to advise MCE on new regime, including proposed Laws and Rules • AEMC to report on national framework for network reliability standards • Establish National Transmission Planner and revised transmission regulation within NEMO 	<p>June 2008 Sept 2008 June 2009</p>
<p>4. Energy Rules and Derogations</p> <ul style="list-style-type: none"> • MCE to review all remaining derogations • MCE to report to COAG on remaining derogations 	<p>June 2008 Dec 2008</p>
<p>5. Retail Price Regulation</p> <ul style="list-style-type: none"> • MCE to review energy CSO mechanisms 	<p>June 2008</p>
<p>6. Financial Markets</p> <ul style="list-style-type: none"> • AEMC, NEMMCO, ASX to develop options to integrate markets • AEMC, AER and NEMMCO to address network support contracts, wholesale trading and settlement residue auctions 	<p>Dec 2007 June 2008</p>
<p>7. Western Australia and Northern Territory</p> <ul style="list-style-type: none"> • WA and NT to monitor the outcome of local and national energy market developments on an ongoing basis and consider the adoption of national institutions 	<p>Ongoing</p>