



Australian Energy Market Commission

National Transmission Planner

National Transmission Planning Arrangements:
Scoping Paper
August 2007

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About the AEMC

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

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Abbreviations

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
BETTA	British Electricity Trading and Transmission Arrangements
capex	Capital Expenditure
CAPM	Capital Asset Pricing Model
CFE	Comision Federal de Electricidad (Mexico)
Code	National Gas Code
Commission	see AEMC
CPI	Consumer Price Index
CRE	Mexican Energy Regulatory Commission
CSC / CSP	Constraint Support Contract / Constraint Support Payment
DEA	Data Envelope Analysis
DRP	Draft Statement of Principles for the Regulation of Transmission Revenue (May 1999)
Draft SRP	Draft Statement of Principles for the Regulation of Electricity Transmission Revenues (August 2004)
EMA	Energy Market Authority (Singapore)
EPO	Electricity Pricing Order (South Australia)
ESC	Essential Services Commission (Victoria)
FER	Federal Energy Regulatory Commission (USA)
FTR	Firm Transmission Rights
IPART	Independent Pricing and Regulatory Tribunal (NSW)
ISO	Independent Systems Operator
kV	Kilovolt
MAR	Maximum Allowed Revenue
MCE	Ministerial Council on Energy
MNSP	Market Network Service Provider
NECA	National Electricity Code Administrator
NEL	National Electricity Law

NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
NETA	New Electricity Trading Arrangements
NGC	National Grid Company (Britain)
NPAM	Network Performance Assessment Model (Singapore)
NVE	Norwegian Water Resource and Energy Administration
OATT	Open Access Transmission Tariff (USA)
ODV	Optimised Deprival Value
Ofgem	Office of Gas and Electricity Markets (UK)
opex	Operating Expenditure
PASA	Projected Assessment of System Adequacy
PTRM	Post Tax Revenue Model
QCA	Queensland Competition Authority
RAB	Regulatory Asset Base
RoR	Rate of Return
Rules	National Electricity Rules
SCO	Standing Committee of Officials
SRP	Statement of Principles for the Regulation of Electricity Transmission Revenues (December 2004). The SRP comprises a background paper and a consolidated version of the principles.
TFP	Total Factor Productivity
TNSP	Transmission Network Service Provider
TPA	Trade Practices Act 1974 (Commonwealth)
TUoS	Transmission User of Service
WACC	Weighted Average Cost of Capital

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1 Preface

In response to a decision by the Council of Australia Governments (COAG) on 13 April 2007, the Ministerial Council on energy (MCE) had directed the Australian Energy Market Commission to conduct a review on and develop an implementation plan for the establishment of an enhanced national transmission network planning function.

The terms of reference and timetable for the review are provided at Attachment.

This Scoping Paper commences the initial phase of the review and seeks comments from all relevant stakeholders on the scope of the issues that should be considered as part of the review. It has been framed in an open way with reference to the issues addressed by the terms of reference in order to obtain substantial and broad-ranging feedback from stakeholders on the issues they consider to be directly or indirectly relevant to this review.

Responses to the Scoping Paper and the Commission's preliminary research will be of assistance in refining the scope of and approach to the review and in identifying the issues that it should address.

Submissions should be received by 7 September 2007 and can be sent electronically to:

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2 Introduction

In its communiqué of 13 April 2007, COAG announced its decision to establish an enhanced planning process for the national electricity transmission network to promote more strategic and co-ordinated development of the transmission network and to assist in optimising investment between transmission and generation across the power system. At COAG's request, the MCE has directed the Commission to conduct a review into development of a detailed implementation plan for that enhanced national transmission function.

The terms of reference for the review are at Attachment.

The purpose of this document is to seek responses on the appropriate scope of this review, and its interaction with a number of related reviews.

The document is structured as follows. Section 2 describes the review to be undertaken by the Commission. Section 3 provides background and context for the review. Section 4 sets out issues relevant to the scope and conduct of the review. Finally, section 5 sets out the consultation process and timetable for the review.

3 The review

The review will encompass three principal tasks:

- development of an implementation plan for the national transmission planning function, including arrangements for the preparation of a 10 year National Transmission Network Development Plan (NTNDP) to be updated annually,
- consideration of the case for simultaneous review and determination of TNSP revenue caps, in place of the current sequential reviews, and
- a revised network planning and consultation process, to replace the current 'Regulatory Test' with an assessment process that amalgamates the reliability and market benefits criteria of the current Test.

Each of these tasks is described further below. The Commission's advice on these issues must be consistent with the COAG decision.¹ The Commission is required to report on these matters by 30 June 2008.

The MCE has also directed the Commission to request the Reliability Panel to conduct a review into reliability standards for transmission networks, with a view to developing a consistent national framework. This work will be conducted by the Reliability Panel, under a reference by the Commission and will be completed by 30 September 2008.

¹ The decision is at www.coag.gov.au/meetings/130407/docs/coag_nra_competition_reforms.rtf

3.1 National Transmission Plan

COAG has endorsed establishment of a National Energy Market Operator (NEMO), and has requested the MCE to develop a detailed implementation plan for establishing NEMO by the end of 2007.

NEMO's functions will include development of a national plan for the national electricity transmission grid (excluding WA and NT). It is intended that NEMO should produce a National Transmission Network Development Plan (NTNDP).

The NTNDP will look forward at least ten years and be produced annually after wide consultation. These new arrangements are intended to achieve an appropriate balance between a co-ordinated and efficient national transmission grid, and local and regional planning requirements. The NTNDP will replace the current Annual National Transmission Statement.

It is intended that the NTNDP will outline the broad development of the power system including current and planned network capability as well as prospective generation development options. Its role will be to inform and guide network and generation investment decisions, but not to bind TNSPs or replace their existing reliability accountabilities. TNSPs will remain accountable for transmission investment, operations and performance. The AER's regulatory decision making process will be informed by the NTNDP but the AER will not be bound by it in making regulatory decisions on TNSP revenues.

The existing roles of VENCORP in Victoria and ESIPC in South Australia need not change (the decision also refers to those roles being preserved). Existing commercial arrangements for Basslink, the only remaining unregulated transmission asset, will remain unchanged.

3.2 Aligning transmission regulation

The AER establishes a cap on transmission revenues under periodic regulatory reviews. The AER plans to complete eight reviews over the next five years. While some will be undertaken simultaneously, there will be a rolling program of reviews over that period. Undertaking regulatory assessments sequentially for TNSPs operating in different regions may mean that the AER is currently unable to take a NEM wide view of the investment requirements of national flow paths.

The MCE has directed the Commission to consider the merits of aligning these timetables so that all TNSP revenue cap proposals are reviewed simultaneously.

3.3 Revised network planning and consultation process

COAG has agreed to a revised network planning and consultation process to replace the current Regulatory Test.

The Regulatory Test currently has two criteria for assessing proposed investments. Investments to meet mandatory obligations, such as reliability standards, are required to demonstrate that they are least cost in relation to the alternatives. Discretionary

investments that provide market benefits are required to show that they maximise net benefits.

The Commission is required to advise on how these criteria can be amalgamated. The Commission is also required to consider how the assessment of market benefits can be broadened to include national market benefits.

4 Relevant background and related reviews

The Review to be undertaken by the Commission is intended to develop a detailed implementation plan for arrangements for an enhanced national transmission planning function .

This section provides a brief overview of the background relevant to decisions on the scope of that review and of related work that has either been recently completed or is under way.

4.1 Energy Reform Implementation Group

COAG established an Energy Reform Implementation Group (ERIG) in February 2006 which reported in January 2007 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.

COAG responded to that report in its communiqué of 13 April 2007. The Commission's advice is required to be consistent with COAG's response to the ERIG recommendations. The Commission's advice is not required to be consistent with the ERIG findings and recommendations which are summarised in **Box 1.1**.

Box 1.1: The findings of the Energy Reform Implementation Group

The Energy Reform Implementation Group (ERIG) reported to COAG on 12 January 2007. ERIG concluded that there are three elements to developing an efficient national transmission grid:

- Improved locational signals to generators
- A stronger incentive framework for TNSPs, and
- An improved national transmission planning mechanism to better coordinate and integrate the development of the national power system.

The role and nature of locational signals to generators are being addressed under the Commission's congestion management review, described below. ERIG proposed that the scope of that review be widened to address short term efficiency of dispatch and operations, and long term efficiency of investment.

The incentive framework for TNSPs is integrally related to the detailed design and implementation of the economic regulation framework. The ACCC and AER have been developing performance measures and an incentive regime for TNSPs for some years. ERIG concluded that this work has fallen short of delivering material improvements in the effectiveness of the incentives. It recommended that the AER be required to commit to a timetable for development and implementation of a comprehensive incentive regime for TNSPs.

On the third element, ERIG concluded that there was a need for a more national approach to transmission planning and investment. ERIG recommended that a new national planning function be established consistent with accountability for decision making, performance and investment remaining with TNSPs. ERIG recommended that a review be undertaken by the AEMC to develop in detail the planning framework recommended by ERIG.

ERIG also recommended introduction of a Project Assessment and Consultation process on all major augmentations. The report concluded that the current Regulatory Test is inappropriate, on the basis that:

- A project by project assessment will not deliver efficient long term development, and
- A two limb approach artificially assigns reliability or market benefits to parts of the network, when in reality these benefits are jointly provided by the network as a whole.

The report proposed a two-stage assessment approach. The first stage would involve an annual longer term plan for development of the national transmission network developed against a revised assessment framework that amalgamates the two limbs of the current Regulatory Test, in full consultation with interested parties.

The second stage would involve TNSPs consulting on individual projects, to ensure

they represent efficient solutions to reliability and national flow path requirements and that non-network solutions are considered. Again, the two limbs of the Regulatory Test would be combined when consulting on projects. The process would also ensure that projects are consistent with the National Transmission Network Development Plan under the first stage.

4.2 Congestion Management Review and related rule change proposals

The MCE has directed the Commission to review and make recommendations on improved arrangements for managing financial and physical trading risks associated with material network congestion. Network congestion occurs when the available network capacity is insufficient to permit the dispatch of the lowest cost generation available to meet electricity demand.

One of the reasons why significant congestion may occur is the failure to undertake efficiently located and timely augmentation of the transmission network. The approach taken to congestion management may affect the price signals for transmission augmentation, and the incentives for other market participants, including generators, to respond to network congestion. The COAG communiqué and the MCE's terms of reference require the AEMC to take into account the findings of other reviews, including the congestion management review, in conducting this review of the proposed national transmission function.

The Commission's congestion management review is being conducted at the same time as its consideration of four rule change proposals relating to network congestion. The related proposals are:

- The MCE's rule change proposal in relation to principles and processes for deciding future NEM region boundary changes
- the Snowy Hydro proposal to abolish the Snowy Region, by extending the boundaries of the existing New South Wales and Victoria Regions;
- the Macquarie Generation proposal to split the existing Snowy Region into two regions; and
- the Southern Generators' proposal to consolidate within the Rules the current congestion pricing trial in the Snowy Region.

The Commission issued a Directions Paper and an update of this work program in March 2007. Those documents set out how the Commission will progress work in parallel, enabling consultation and decision-making on these related issues to be aligned. The Commission currently expects to issue its draft reports on the congestion management review and determination in respect of the four related rule change proposals in August 2007.

4.3 Incentive framework for TNSPs

The delivery and pricing of efficient transmission services are important inputs to the efficient operation of the NEM. In 2006 the AEMC completed a review of the rules relating to the provision of transmission services, and made significant changes. The purpose of these changes was to improve the incentive regime under which transmission service providers operate and to clarify how different services are to be classified and priced.

In particular, the new transmission regulation Rules require the AEMC to develop and implement by December 2007 a regime of financial incentives and penalties to encourage TNSPs to make available transmission capacity and services at time of most value to transmission service users and final energy consumers. Under the previous service incentive scheme developed by the ACCC (which focused principally on reducing outages) the scale of the incentive was limited to + or - 1% of each TNSP's revenue cap. The new Rules permit up to 5% of revenue to be placed at risk under the reformed incentive scheme to be developed by the AER.

As noted above, the incentive scheme developed by the ACCC focused on reducing outages. However, some outages have no costs to the market, while others have high costs. Under the new incentive scheme, the AER is required to link service standard incentives more directly to market outcomes. The AER has developed measures of the market impact, in consultation with NEMMCO and released detailed reports on the market impact of congestion during over the three financial years to June 2006.

In June 2007, the AER released an issues paper on its proposed incentive scheme to reduce transmission congestion at times of highest market value. Following consultation, the AER intends to finalise an incentive regime before its revenue cap reviews for TNSPs in New South Wales and Tasmania.

4.4 Regulatory Test

Since the commencement of the NEM, there has been a requirement to assess the economic contribution or feasibility of network augmentation investment proposals by means of a "test", the form of which has been varied over time.

A test to ensure that transmission augmentations maximised benefits for customers (the 'Customer Benefits test') was a condition applying to authorisation of the National Electricity Code. In July 1999, this was modified to a 'Regulatory Test', to be applied by TNSPs when considering whether augmentations should proceed, and by the Inter-Regional Planning Committee (subsequently modified to NEMMCO) in considering inter-regional augmentations.

Code changes in February 2002 removed the distinction between inter and intra-regional augmentations. TNSPs became responsible for considering all augmentations, removing NEMMCO's role in considering inter-regional augmentations. This accountability has since remained unchanged.

The Regulatory Test was initially developed by the ACCC in 1999, and modified in August 2004. This modified test remains in force, and is included in the AER's transmission regulatory guidelines.

The Regulatory Test has two limbs:

- **Reliability limb:** An option that is required solely to meet mandatory requirements (typically reliability requirements) has to be least cost. The comparison is with options which have a clearly identifiable proponent
- **Market benefits limb:** all other options are required to maximise the expected net present value. The comparison needs to be against genuine and practicable alternatives, but is not limited to alternatives that have a proponent.

The MCE submitted a rule change proposal to the Commission in October 2005, to implement new principles for the Regulatory Test. The Commission released a final determination on reform of the Regulatory Test principles in November 2006. Key elements included an improved governance structure, clearer objectives, and improved procedural requirements.

Although most investment has proceeded against the reliability limb, the market benefits limb of the Regulatory Test has been particularly contentious. The Commission has established a two-stage process. NSPs will publish a request for information on potential options. They will then assess the proposal against likely alternatives, rather than against all genuine and practicable alternatives, as is currently required.

The AER will modify the Regulatory Test, and the guidelines for application of the Regulatory Test, to make it consistent with the Rule determined by the Commission. This work is under way.

As noted in section 2, the COAG national planning decision requires the Regulatory Test to be replaced by a revised network planning and consultation process that amalgamates the reliability and market benefits limits of the current Test.

4.5 Annual National Transmission Statement

In December 2003 the MCE reported to COAG on a package of energy reforms. This included the establishment of a new NEM transmission planning process. An Annual National Transmission Statement (ANTS) was to be prepared by NEMMCO, in conjunction with market participants. The ANTS was to detail national transmission flow paths, forecast constraints, and identify options to relieve them.

The first ANTS was produced in July 2004. NEMMCO has continued to develop the ANTS through periodic consultations. A consultation paper in March 2007 sought responses on the scope of the ANTS and the data and assumptions on which market simulations for the ANTS are based.

NEMMCO has established criteria for the National Transmission flow path. The ANTS then provides an overview of the current state of that flow path, and potential future development. NEMMCO:

- Uses market simulations to forecast network congestion and identify the need for augmentation
- Develops 'conceptual augmentations' in consultation with jurisdictional planning bodies, and

-
- Prioritises augmentations on the basis of their relative net market benefits (that is, the simulated market benefits less the cost). It also verifies that the highest priority augmentations by comparing scenarios with and without the augmentation.

The market benefits of the highest priority augmentations are then verified by comparing scenarios with and without those augmentations.

The COAG communiqué noted that the new national planning function, including the NTNDP would replace the roles of the current Interregional Planning Committee and the Annual National Transmission Statement.

5 Issues for consultation

The Commission is seeking views on the scope of the review, and the issues it will need to address in the conduct of the review. It has raised these issues against the three main components of the review. However, the Commission recognises that the overall approach will need to be integrated, comprehensive and take account of related reviews.

The Commission is required to develop a detailed implementation plan for enhanced planning arrangements for the national transmission network. The approach to transmission planning and investment has been a contentious issue since the start of the NEM. It is desirable to have clear objectives, and a basis for selecting between investment alternatives, including non-network options, in developing this detailed implementation plan.

The work of the Commission has to have regard to the NEM objective:

“To promote efficient investment in, and efficient use of, electricity services for 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.”

It is necessary to consider the relevant application of this objective to specific aspects of energy market reform. The COAG response to the ERIG report states that there is scope for further reform to deliver efficiency improvements. The response states that there is a need for a more strategic and nationally coordinated approach to transmission network development. The main focus appears to be efficiency gains through a co-ordinated and ‘national’ approach to optimal investment in the development of the national energy flow paths in the interconnected transmission network of the NEM.

The COAG response makes clear that these efficiency gains need to be addressed while maintaining a balance between national co-ordination and local and regional requirements. The approach also needs to ensure the TNSPs remain accountable for transmission investment, operation and performance. Approaches which entail centralised decision making, or centralised planning which is binding on the TNSPs, would be inconsistent with the COAG response.

In addition to increasing the efficiency of development of the national transmission network, while maintaining accountability with TNSPs, the response sets out a number of constraints on the new arrangements. They must be not create any delays in

regulatory approval for transmission investment, compared with current arrangements; must not reduce the ability to make urgent and unforeseen transmission investment; and need not change the roles of VENCORP and ESIPC, or the commercial arrangements for Basslink.

The Commission is seeking general comments on the issues identified by COAG, the approach to assessing the enhanced arrangements for network planning against the NEM objective, and the basis for identifying and selecting between options for the implementation of those enhanced arrangements.

5.1 Enhanced National Transmission Plan

COAG has decided to establish a National Transmission Planner, based in the new NEMO. The Commission needs to develop detailed implementation arrangements. This will require consideration of the governance arrangements for the National Transmission Planner, its role and functions, and appropriate conduct of those functions in interaction with TNSPs and other institutions.

The *governance arrangements* for the National Transmission Planner will need to be designed with a view to the appropriate roles of different parties. As the national transmission planning function will be developed within NEMO, the governance arrangements will need to be consistent with – but not necessarily identical to – those adopted for NEMO as a whole.

The development of the national transmission plan will require close co-ordination with TNSPs. There may also be benefits from other affected parties – such as generators and major consumers – playing a role. COAG has also decided that the new arrangements will replace the current Inter-Regional Planning Committee. Accordingly it will be important that the new planning function maintains and enhances communication and information exchange with regional planning bodies, TNSPs, generators and energy users.

The Commission is seeking respondents' views on the appropriate governance, consultation and communication arrangements for the new National Transmission Planner.

The COAG decision states that the role of VENCORP and ESIPC need not change, and also refers to preservation of the jurisdictional roles of these entities but does not comment in similar terms on the role of TNSPs who carry out similar planning functions in other jurisdictions.

The Commission is interested in views on the appropriate scope of the review with respect to planning arrangements within jurisdictions, and their interaction with national planning arrangements.

COAG has established the broad role and functions of the NTNDP, deciding 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”.

A view expressed by ERIG was that the regional focus of current network planning arrangements and the emphasis placed on reliability network augmentations has resulted in under-investment on national flow paths that would reduce network congestion and promote greater competition and efficiency in the NEM. To the extent that this is a material concern, the proposed planning function and NTNDP would provide a more informed basis for achieving an appropriate balance between network investments directed to achieving market and reliability benefits respectively.

However, the emphasis is on the provision of information. There is to be no change to TNSP accountability for transmission investment, operation and performance. Similarly, while the AER may have regard to the NTNDP and the advice of the National Transmission Planner, it will not be bound by the NTNDP when making its revenue determinations.

This appears to reflect a view that there are substantial gains to be realised from improved national planning and coordination, and that these gains are best delivered through planning and investment decisions by regional (or in some cases sub-regional) entities. The key issue will be to identify what information and analysis will best assist those entities in conducting their own planning and making their own investment decisions within the framework of a co-ordinated national plan and the most effective processes for gathering, analysing and communicating that information.

The COAG decision requires that the Planner considers the broad development of the power system, including the capability of the national transmission network. Implementation of this decision will require clarity on the nature of the national transmission network and the primary national flow paths within that network.

Options could range from a narrowly defined focus simply on interconnects between regions to a widely defined focus on all transmission links whose operation affects the performance of the overall transmission grid. Too wide a definition would result in substantial duplication of planning work with little added value. Too narrow a definition would fail to realise the gains envisaged from national planning.

In preparing the ANTS since 2004, NEMMCO has developed criteria for the National Transmission Flow Path and applied those criteria to identify the area of focus for the ANTS.

<p>The Commission is interested in respondents’ views on whether the principles for identifying the national transmission system have been resolved and correctly applied, or whether there is further work to be done to identify the appropriate area of focus within the transmission network for the National Transmission Planner.</p>

The Commission’s determination in March 2007 established a Rule relating to transmission last resort planning. This function is closely related to the planning powers proposed for the National Transmission Planner. The Rule allowed for the Commission to appoint the IRPC to perform this role. However, COAG has decided that the new planning arrangements will replace the IRPC.

The Commission is interested in comments on the appropriate institutional arrangements for the last resort planning power, and the implications for the functions of the National Transmission Planner.

A third issue is the *conduct* of the planning process. It is desirable that this planning be co-ordinated with that undertaken by the TNSPs. However, it would add no value if it simply replicated or duplicated that work.

Currently, NEMMCO develops ‘conceptual augmentations’. This is done in consultation with jurisdictional planning bodies, taking into account information from their annual planning reviews. It would also be possible for the national planner to actively form its own views on augmentations to be considered. This might promote greater contestability in transmission planning but could also run the risk of inconsistent views on the inputs to and desirable outcomes from the planning process. Alternatively, there could be a closer integration between the augmentations considered by the national planner, and the outputs of planning by jurisdictional bodies.

It appears likely that the approach to conduct of the planning exercise, and the institutional arrangement to support co-ordination between the National Transmission Planner and TNSPs and other bodies, will need to be consistent with the objectives of and institutional and governance framework for the National Transmission Planner.

The Commission is interested in respondents’ views on how best to ensure effective interaction between TNSPs and the National Transmission Planner, while also ensuring that the National Transmission Planner adds value through a stronger focus on the national network.

5.2 Aligning review of TNSP revenues

The AER is responsible for the economic regulation of TNSPs. It establishes caps on their revenues, based on a building block approach, within the framework of the Rules.

The AER groups reviews within one region and undertakes them at the same time. For example, decisions on the revenue cap for Transgrid and Energy Australia were made simultaneously in 2005. However, it undertakes reviews in different regions sequentially, allowing it to manage an even workload of reviews over the five year period between individual resets. The timetable for future reviews is shown in **Figure 1.1**.

Figure 1.1 Timetable for review of TNSP revenue caps.

State	Entity	Next year of review
VIC	Vencorp	2008
	SP Ausnet	2008
SA	Electranet	2008
TAS	Transend	2009
NSW	Transgrid	2009
	Energy Australia	2009
QLD	Powerlink	2012
VIC/SA	Murraylink	2013

Data source: *Source: www.aer.gov.au*

The Commission has been asked to consider the merits of aligning the timetables for transmission revenue determinations. The term alignment suggests consideration of the benefits and costs of conducting all TNSP reviews simultaneously. An alternative interpretation would be that some but not all reviews could be conducted simultaneously. As an example, the benefits of conducting the Tasmanian review at the same time as others may be low but the benefits of simultaneous conduct of the Queensland and New South Wales reviews, may be higher.

Determining the appropriate approach to alignment will entail consideration of both the costs and benefits of alignment. Respondents' views are sought on the costs and benefits which should be considered within the review.

The building block approach to revenue cap regulation requires the AER to form views on efficient levels of forward capital and operating expenditure. Given the increasing integration of the national transmission network, capital expenditure in one region is likely to affect network availability and performance in other regions and vice versa. A more co-ordinated national approach to planning and regulatory decision-making is therefore more able to identify and reflect these inter-regional impacts of the investment proposals of individual TNSPs.

The Commission is interested in respondents views whether simultaneous revenue resets would assist the AER in forming views on efficient investment requirements from a national perspective. If so, what approaches to the conduct of the review would best realise that benefit?

There will also be costs associated with aligning and co-ordinating regulatory reviews. One cost may be the greater burden resourcing and management on the AER regulated TNSPs and other stakeholders over a relatively short period. This might create challenges in ensuring sufficient staff resources for the conduct of determinations and for stakeholder participation. However, the Commission notes that it has been common practice for other regulators to undertake simultaneous reviews of similar businesses, both domestically and internationally.

The AER will be conducting reviews of both transmission and distribution businesses. An assessment of the merits of aligning transmission reviews will need to consider the impact on other reviews. For example, there may be synergies from aligning reviews of transmission revenues within one jurisdiction with distribution reviews in the same region.

The Commission is seeking views on where the greatest synergies may arise, and whether these are likely to be material enough to justify modification to the timetable for reviews. The Commission also seeks views on what disadvantages may arise from aligning the timetables.

5.3 Revised network planning and consultation process

COAG has agreed to a revised network planning and consultation process which replaces the current Regulatory Test, amalgamates the reliability and market benefits criteria under the Regulatory Test and broadens the definition of market benefits.

This will require clear objectives and criteria (that is, a basis for selecting between alternative approaches) based on the NEM objective. It will also require the development of practical approaches for implementation of the proposed new arrangements.

Amalgamating reliability and market benefits

As described in section 3, there are currently two different planning and consultation processes for transmission investment. These processes differ in the costs and benefits to be considered; the basis for the decision; and the approach to alternatives. The differences are briefly summarised in Table 11.

Table 1: The two limbs of the Regulatory Test

	Benefits to be considered	Costs to be considered	Decision criterion	Alternatives to be considered
Reliability limb	Benefits are not valued	Total current and future costs of an option to all those who produce, distribute or consume electricity in the NEM	Least cost	Options which have a clearly identifiable proponent
Market benefits limb	Economic benefits of all likely alternative investment options to be identified and valued	Total current and future costs of an option to all those who produce, distribute or consume electricity in the NEM	Maximise the expected NPV	All likely alternatives (replacing all genuine and practicable alternatives)

The Commission is required to develop a new planning assessment framework that amalgamates the reliability limb (a least-cost test, undertaken through a comparison with options with a proponent), and the market benefits limb (a cost-benefit test, undertaken through a comparison with likely alternatives).

One approach would be to base all planning and consultation on a *cost-benefit decision criterion*, with the benefits of meeting reliability (and other mandatory obligations) being explicitly valued and included in that analysis. This would effectively mean that mandatory obligations were only met when they had a positive NPV (or when they were combined with market benefits sufficient to justify the investment).

This approach might create greater rigor in the setting of mandatory obligations, and should ensure that they are justified on a cost-benefit basis. However, it would also require the adoption of a more complex assessment process for reliability investments. Consideration of this issue will need to be closely aligned with the review into transmission reliability standards, to be conducted by the Reliability Panel. In developing a revised investment assessment process it would be desirable to ensure that an additional regulatory burden is not imposed compared with the outcomes achieved using the reliability limb to assess reliability focused investments.

A cost-benefit approach for all investments might also require frequent reconsideration of TNPS mandatory obligations. This is likely to be relatively time-consuming, and to reduce certainty, compared with establishing and enforcing defined mandatory obligations.

Another approach would be to base all planning and consultation on a *least cost decision criterion*. This would not currently be practicable for augmentations. As there is no obligation for TNSPs to invest in augmentations it would not be possible to assess whether they are meeting obligations at least cost.

This approach would require a prior stage, where network capability targets were agreed, presumably through some form of cost-benefit analysis. It would then be possible to assess whether individual projects appeared to be least cost in response to agreed mandatory obligations, and targets for network capability and performance (defined in some manner).

Such an approach would appear to reflect the 'two-stage' process described in the ERIG report involving the development of an over-arching longer term plan for development of the national transmission network. Against such a plan it might then be possible to assess whether individual projects were a least cost means of delivering the outputs identified in that plan.

However, a requirement to adopt such a 'two-stage process' is not reflected in the COAG decision. An approach of this kind might also prove to be constraining on TNSPs as planning and consultation on individual projects would need to be within the framework of the longer term plan. Care would be needed to ensure that this is not inconsistent with COAG's requirement that the new regime must not adversely impact the ability to undertake urgent and unforeseen transmission investment.

A further alternative would be to *combine the decision criteria*. A least cost assessment could be retained for investments to meet mandatory obligations. However, where these investments also provided market benefits, those additional benefits could be valued and incorporated in the assessment.

The majority of assessments are currently made against the Reliability Limb. However, it is arguable that most network investments provide both reliability and market benefits. This alternative might simply require assessments against the reliability limb (where possible) to also identify and value associated market benefits.

The selection criterion would then be the project with the highest NPV, out of the options which met defined mandatory obligations. Where no options had market benefits, the preferred option would be the least cost alternative. However, where some options also had market benefits, a higher cost option might be preferred, where it was justified by its additional market benefits. This decision criterion would be clear where projects had identical outputs against mandatory obligations. However, it would leave unclear any trade-off between projects with differing reliability (or similar) benefits, and differing NPVs.

This approach appears consistent with the Regulatory Test, which requires that a cost benefit assessment be used unless the project is solely necessitated by the inability to meet minimum network performance requirements. However, practice to date has generally been not to assess the market benefits of such investments.

A related issue will be the alternatives to be considered. Investments against the reliability limb are assessed against options which have a clear proponent. This avoids the risk that TNSPs are unable to meet mandatory obligations, because consultation identifies a lower cost investment which – for whatever reason – the TNSP itself does not wish to (or is unable to) undertake, and which has no other proponent. However, the market benefits limb allows for comparison against likely alternatives, and so potentially allows a wider assessment.

A related issue is the application of the revised planning and consultation process. The process will require underlying assumptions on key variables (such as demand growth, the timing and location of new generation investment, the appropriate discount rate, and related matters) which affect the assessment and ranking of options under consideration. There may be benefits from standardising some of these assumptions or scenarios to be used. If so, it is possible that this could be linked to the information and analysis being produced by the National Transmission Planner.

The Commission is seeking views on options it should consider in order to implement the new planning and consultation process agreed by COAG. The Commission is interested in views on the decision criteria to apply under this process, the alternatives to be considered and the processes for applying these planning and consultation criteria. Respondents may also want to propose broader issues that will require consideration.

Broadening the definition of market benefits

The Commission is required to broaden the definition of market benefits to include national market benefits. 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 consume electricity in the national electricity market”. The Regulatory Test also provides (non-exclusive) examples of benefits which can be taken into account.

This definition appears broad. It is also possible that problems could arise from the approach to application of the Test, rather than the definition itself.

The Network and Distributed Resources Code changes introduced an explicit obligation for TNSPs to plan on a ‘national network basis’. They 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 could be shortcomings in the extent and effectiveness of this co-operative planning.

<p>The Commission is seeking respondents’ 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. The Commission is also seeking views on the responses that should be considered.</p>
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Institutional Arrangements

The institutional arrangements for this new network planning and consultation process will need to be developed. The COAG decision does not set out specific institutional arrangements for the new process. However, it does state that accountability for jurisdictional transmission investment, operation and performance will remain with the TNSPs.

<p>The Commission is interested in views on how the review should address the interaction between the new National Transmission Plan, the institutional arrangements for the transmission last resort planning power, and the institutional arrangements for the new network planning and consultation process.</p>

6 Consultation process and timetable

The AEMC 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.

The timetable for the review, as specified in the terms of reference is as follows:

- Issues Paper for public comment released by 31 October 2007
- Public forum, possibly in November 2007, to discuss the comments of submitters on the Issues Paper and solicit stakeholder views.
- Draft Report on the National Transmission Planning Function released by 28 February 2008.

Final report on the regime for the National Transmission Planning Function released by 30 June 2008.

The Reliability Panel's review of electricity transmission network reliability standards will be co-ordinated with this review and conducted over a slightly longer period. The Panel will be consulting shortly on the timetable and consultation process for that review once it has been issued with terms of reference by the Commission. This aspect of the review will be completed by 30 September 2008.

Submissions on this Scoping Paper are requested by 7 September 2007 and can be sent electronically to:

submissions@aemc.gov.au

or by mail to:

Australian Energy Market Commission

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Australia Square NSW 1215