grid australia
BACKBONE OF THE NEM

31 May 2012

Mr John Pierce
Chairman
Australian Energy Market Commission
Level 5, 201 Elizabeth Street
Sydney NSW 2000

Via website: www.aemc.gov.au

Dear John

Transmission Frameworks Review First Interim Report – Supplementary Submission

This supplementary submission responds to issues and comments raised in the late submission from the Australian Energy Market Operator (AEMO) to the First Interim Report on the Transmission Frameworks Review (TFR).

AEMO's submission makes a number of claims and assertions with respect to the planning framework and the role of incentives that are either incorrect or not supported by evidence. Given these assertions form the basis of AEMO's push for a fundamental change to the framework, specifically that it be installed as the single not-for-profit planner and procurer of transmission services, it is necessary for them to be subject to scrutiny to demonstrate whether a case for change has been established.

The purpose of this submission is to respond to a number of AEMO's key contentions and to put forward Grid Australia's preferred transmission framework for the National Electricity Market (NEM).

Grid Australia notes that there will be a number of pressures that will test the robustness of the transmission framework in the NEM. As noted by AEMO, it is important that these challenges be met in a cost effective manner. However, unlike AEMO, Grid Australia considers that the current framework, supported by recent changes for transmission planning is robust, flexible, and adaptable to meeting these challenges.

Implementing AEMO's preferred transmission framework would serve only to undo much of the gains that have been made since the reform of the electricity market in Australia. It would reduce the accountability for decision making and discard the capacity to harness financial incentives to achieve socially desirable outcomes.

This submission outlines a preferred transmission framework for addressing the future challenges for transmission networks. It is heavily based on the demonstrated success of the current framework outside Victoria and recognises that many significant reforms have recently been implemented that have further enhanced the framework.

At the heart of Grid Australia's preferred framework is the proposition that superior outcomes are delivered by providing businesses with commercial incentives to pursue the public interest (as encapsulated in the National Electricity Objective (NEO)); and by providing flexibility to respond to those incentives.

Such a framework harnesses the information held by all parties as well as ideas and the potential for innovation. It applies to the context of economic regulation the key lessons from the success of western economies, namely that, irrespective of the apparent plausibility of arguments in favour of an omniscient central planner, such a model cannot hope to provide the same impetus for efficiency and innovation as a model where incentives are allowed to operate.

This submission also sets out Grid Australia's specific concerns with claims made in the AEMO submission to support its view that the current framework is not working and that it should be installed as the not-for-profit planner and procurer of the entire transmission network in the NEM.

Finally, Grid Australia notes that AEMO has recently also advanced its preferred transmission framework in a late submission to the Productivity Commission Inquiry on Electricity Network Regulation. Grid Australia is disappointed that AEMO has used highly selective and potentially misleading benchmarking information in this most recent submission. Grid Australia will carefully consider any additional issues raised by this submission and respond accordingly.

Grid Australia looks forward to continuing to work with the AEMC and stakeholders through the further stages of the review. If you require any further information, please do not hesitate to contact me on (08) 8404 7983.

Yours sincerely

Rainer Korte

Rainer Korte
Chairman
Grid Australia Regulatory Managers Group

grid australia
BACKBONE OF THE NEM

Transmission Frameworks Review

Supplementary Submission in response to AEMC First Interim Report

May 2012

Powerlink QUEENSLAND
TransGrid
ElectraNet electricity transmission
TRANSEND
SP AusNet A member of Singapore Power Group

Table of Contents

1 Introduction and summary

This submission responds to issues and comments raised in the submission from the Australian Energy Market Operator (AEMO) to the First Interim Report on the Transmission Frameworks Review (TFR).

AEMO's submission makes a number of claims and assertions with respect to the planning framework and the role of incentives that are either incorrect or not supported by evidence. Given these assertions form the basis of AEMO's push for a fundamental change to the framework, specifically that it be installed as the single not-for-profit planner and procurer of transmission services, it is necessary for them to be subject to scrutiny to demonstrate whether a case for change has been established.

The purpose of this submission is to respond to a number of AEMO's key contentions and to put forward Grid Australia's preferred transmission framework for the National Electricity Market (NEM).

1.1 Summary

Grid Australia notes that there will be a number of pressures that will test the robustness of the transmission framework in the NEM. As noted by AEMO, it is important that these challenges be met in a cost effective manner. However, unlike AEMO, Grid Australia considers that the current framework, supported by recent changes for transmission planning is robust, flexible, and adaptable to meeting these challenges.

Implementing AEMO's preferred transmission framework would serve only to undo much of the gains that have been made since the reform of the electricity market in Australia. It would reduce the accountability for decision making and discard the capacity to harness financial incentives to achieve socially desirable outcomes.

1.1.1 Preferred national transmission framework

This submission outlines a preferred transmission framework for addressing the future challenges for transmission networks. It is heavily based on the demonstrated success of the current framework outside Victoria and recognises that many significant reforms have recently been implemented that have further enhanced the framework.

At the heart of Grid Australia's preferred framework is the proposition that superior outcomes are delivered by providing businesses with commercial incentives to pursue the public interest (as encapsulated in the National Electricity Objective (NEO)); and by providing flexibility to respond to those incentives.

Such a framework harnesses the information held by all parties as well as ideas and the potential for innovation. It applies to the context of economic regulation the key lessons from the success of western economies, namely that, irrespective of the apparent plausibility of arguments in favour of an omniscient central planner, such a model cannot hope to provide the same impetus for efficiency and innovation as a model where incentives are allowed to operate.

Grid Australia recognises, however, that creating perfection in incentive arrangements is not possible, and hence needs to be supported by administrative arrangements.

Grid Australia's preferred framework includes the following key elements:

- *National co-ordination of transmission planning and investment* - efficient network planning and investment should combine a longer term national strategic perspective with commercially focused Transmission Network Service Providers (TNSPs) responsible for implementing near term regional transmission plans, applying local knowledge. While the current framework embodies these elements recent reforms and reviews underway are further strengthening it by:

  - Providing AEMO with independent oversight of TNSP's demand forecasts, and

  - Implementing a more robust approach to inter-regional transmission charging.

  A further enhancement would be to provide scope for economically derived but deterministically expressed reliability standards to be reset where there is a clear change in circumstances.

- *Regulatory oversight of revenue requirements harnessing financial incentives for improved performance* – economic regulation should provide for an independent assessment, and scrutiny by third parties, of all expenditure proposals combined with incentives that reward TNSPs for improved performance and penalise poor performance.

- *Commercially focused connections framework* – efficient connections are best facilitated by generators and customers being provided with connection options through negotiation with commercially motivated TNSPs. The need for, and form of, regulation for different aspects of connection related services should reflect their economic characteristics.

- *Efficient generator location signals* - if the AEMC determines refinements to be justified, Grid Australia supports the further investigation of a commercial solution for more efficient generator locational signals in the form of the regional optional firm access model similar to Package 4 in the AEMC's First Interim

Report. This approach would allow connecting generators to negotiate access with financially motivated TNSPs.

1.1.2 Response to specific issues raised in the AEMO submission

AEMO has made a number of claims in its submission to support its view that the current framework is not working and that it should be installed as the not-for-profit planner and procurer of the entire transmission network in the NEM.

Grid Australia has the following specific concerns with claims made in the AEMO submission:

- AEMO states that no-one has responsibility for the national grid and this creates a bias towards regional projects and inhibits the development of national transmission projects.
  - AEMO's claims appear to be based on observations of a period prior to the significant recent reforms to transmission frameworks which now includes a National Transmission Planner (NTP) and the Regulatory Investment Test for Transmission (RIT-T). These require TNSPs to have regard to the national strategic plan developed by AEMO as the NTP and to ignore regional boundaries when identifying options to address a specific need.
  - The current framework includes numerous opportunities for AEMO, and any other party, to challenge the development plans of TNSPs or propose alternatives to meet a specific need. If AEMO genuinely considers that TNSPs are making poor planning decisions it already has the opportunity to raise its concerns through any of the many forums available to it.
  - The evidence also indicates that AEMO, through its NTP function, is now able to properly consider national strategic projects such as NEMLink. In addition, TNSPs undertaking their planning functions have been successful in identifying solutions to network needs outside of their own region.
- AEMO claims that there is a need for national co-ordination of electricity and gas transmission networks to avoid gas fired generators inefficiently locating closer to fuel sources rather than the existing electricity transmission network.
  - Grid Australia supports the idea of mechanisms to assist the economy's coordination of investment between the gas and electricity transmission sectors, but this does not require decision making by a central planner.
  - Gas transmission investments are highly commercial and tend to be backed by long-term agreements with key network users. This commercial competitive environment means many gas transmission assets are

unregulated. A commercial environment such as this warrants a commercial solution to any coordination issues between gas and electricity network planning and investment. This includes stronger signals for the efficient location of electricity generation and potentially improved information provision for potential investors.

- AEMO's views in this area, however, ignore a number of the practical realities about how generation and associated network investment is undertaken in Australia. AEMO's preferred approach would require it to direct where privately owned gas fired generators locate as well as the investment decisions of privately owned gas pipeline businesses. This is clearly at odds with the reform objectives for energy markets in Australia and the commercial environment in which gas and electricity investments are made.

- AEMO has sought to discredit deterministic planning standards on the basis that, over time, they can under or over value reliability.

  - It is accepted that there is scope for economically derived but deterministically expressed planning standards to over or under value reliability. This does not, however, mean that probabilistic standards are the solution. Indeed, economically derived deterministic planning standards have a number of advantages over probabilistic standards. Applying probabilistic standards requires many assumptions to be made that can also lead to inaccurate outcomes. Probabilistic standards also lack transparency and consistency with system wide operating standards.

  - The issue raised by AEMO is actually one of implementation and can be easily resolved by introducing a mechanism to reset deterministic standards where there is a material change in circumstances.

  - It is also important to note that AEMO is unclear as to whether the strength of its model rests on the form of planning standard or the independence of the party responsible for planning the network.

- AEMO claimed that the competitive provision of transmission services through a not-for-profit planner and procurer is more efficient than the current framework.

  - Under AEMO's proposed approach there would be no independent oversight of network plans and no review by the Australian Energy Regulator of whether expenditure proposals are efficient and prudent. This is already a flaw in the jurisdictional arrangements in Victoria.

  - Grid Australia is concerned that this is a considerable reduction in the independent oversight of investment plans and decisions under this framework. The implication of reduced oversight of AEMO's actions is that costs can be imposed on customers with little or no scrutiny of their

efficiency. This is already a weakness for augmentation and connection planning in Victoria.

  - Further, there is no evidence that AEMO's competitive tendering model has reduced costs compared to the regulated provision of network services. Indeed, there has been no independent assessment of the effectiveness of competition for shared transmission services in Victoria. Grid Australia suspects the competitive tendering model in Victoria may have actually increased costs, including through increased transaction costs.

- AEMO has claimed that the building blocks plus incentives model of regulation does not work and provides an incentive for TNSPs to over-capitalise in network infrastructure.

  - This represents a fundamental misunderstanding of how incentive based economic regulation works. Further, it is contrary to the widely accepted economic view that putting investment decisions in the hands of financially motivated businesses with appropriate financial incentives leads to more efficient outcomes than central planning.

  - In fact, the application of a revenue cap in transmission means that TNSPs are penalised for any additional dollar they spend. As such, under this framework TNSPs have an incentive to consider whether a relevant project is necessary at all or can be delivered at lower cost. Indeed, in jurisdictions outside of Victoria, TNSPs are able to make trade-offs between augmentation decisions and operating and maintenance decisions in order to deliver the most efficient solutions. This incentive for TNSPs to minimise expenditure is balanced with either a requirement or incentive (or both) to ensure that an efficient level of service is provided to customers and a requirement for independent scrutiny on investment plans and proposals.

2 The current framework is working

As identified in previous submissions to the TFR, while key features of the regime are relatively new, the evidence strongly suggests that the frameworks for transmission investment are robust and delivering outcomes that are consistent with the National Electricity Objective (NEO). Conversely, given the excess capacity that has existed historically in Victoria, its framework has not yet been tested in a serious way. Therefore, the merits claimed of the approach taken in Victoria are yet to be proven.

Much of the submission from AEMO reflects on a period before substantial reforms to the transmission framework were implemented or have had a chance to fully work. The revised transmission framework now includes a number of checks and balances that seek to ensure that there is a 'whole of grid' approach to transmission planning.

As such, this allows for a more effective interaction between regional and national objectives.

It is important that the AEMC and other stakeholders be aware that while evidence suggests the framework is working, this should not imply that outcomes will always be perfect. TNSPs undertake annual network planning and also apply an economic test and public consultation to investments through the Regulatory Investment Test for Transmission (RIT-T). The purpose of these activities is to ensure that that all parties are able to contribute to the planning process and only efficient projects proceed. Nevertheless, these processes ultimately require a prediction of future outcomes.

Investment decisions by generators and customer consumption outcomes can, and do, turn out differently to forecasts. It should not be considered a failure of the regulatory framework that in hindsight different transmission projects may have been preferred. Instead, it reflects the reality that any investments may appear sub-optimal with the benefits of hindsight.

Grid Australia contends, however, that inefficient outcomes would be much more likely and significant if responsibility for planning and procuring the transmission network was undertaken by AEMO as the not-for-profit planner, separate to the incumbent network owner.

This is because AEMO does not, and cannot, have the detailed local knowledge necessary to effectively plan augmentations to the network in a way that optimises the use of existing assets, aligns with efficient renewal decisions and takes into account operating practices. AEMO does not possess detailed knowledge of local conditions for transmission, distribution, and generation investment, the condition of the existing asset base, or opportunities to deliver operating services more efficiently through standardised or innovative asset practices. Nor does it, as a not-for-profit entity, have the capability to respond to financial incentives to drive efficient investment decisions.

3 Preferred national transmission framework

Grid Australia considers that there are a number of challenges that TNSPs need to respond to in the coming years. As articulated in Grid Australia's submission to the First Interim Report, the evidence to date demonstrates that TNSPs respond efficiently to significant investment challenges which promote the NEO. This is not to say that the framework cannot be enhanced where a case for change exists. For instance, as identified below, Grid Australia considers that there may be an opportunity to improve the consistency of TNSPs' Annual Planning Reports and the clarity of the rules for network connections.

The framework outlined below is consistent with the AEMC's assessment criteria in that it is focused on commercial incentives and appropriate risk management to achieve efficient outcomes. In addition, enhancements to the current framework are

only proposed where it is likely that the transitional costs and risks do not outweigh the benefits of the enhancements.

This approach is premised on the view that superior outcomes are delivered by providing businesses with a commercial incentive to pursue the public interest. Conversely, there are inherent limitations associated with not-for-profit entities that constrain their ability to achieve improvements in efficiency and innovation. These limitations, compared to profit motivated businesses, were highlighted by Stephen Littlechild who stated:[1]

> *"If the future were known, there would be little difficulty in identifying the optimal structure of each industry and the optimal set of techniques. But in that event, the problems would not arise in the first place. The question to be posed is whether the NEB [National Enterprise Board] can expect to make better predictions and decisions than the thousands of individuals in the market. It seems unlikely. Participants in the market have collectively not only more experience and knowledge but also the personal financial incentive to seek out relevant information and to make correct decisions. Over time the market encourages the people who are successful and weeds out those who are not. By contrast, members of the NEB are not risking their own money and are under pressure to return an overall performance which is satisfactory to the Government. And for the Government, profit derived from efficiency and alertness is only one of many considerations: political considerations may count for more."*

3.1 National co-ordination of transmission planning and investment

Efficient network planning and investment needs to combine a longer term national strategic view with near term regional transmission development plans. This outcome is already achieved in the current framework which includes the following key elements:

- National strategic planning undertaken by AEMO across major flow paths over a 20 year planning horizon, including for interconnectors, as part of its National Transmission Network Development Plan (NTNDP).
- Profit motivated network businesses translate the strategic plan into near term regional transmission plans based on joint planning across NEM boundaries and with distributors. This includes a Rules requirement that TNSPs' annual planning reports (APRs) have regard to the NTNDP.
- Scope for the NTP to contribute to the individual assessment of projects through the Regulatory Investment Test for Transmission (RIT-T) and the revenue setting process for TNSPs overseen by the Australia Energy Regulator (AER).

[1] S, C, LittleChild, *An 'Austrian' Critique of Recent Economic Thinking and Policy,* second edition, 1986, p. 72.

In addition to these, Grid Australia supports recent reforms and reviews underway to further strengthen the framework, namely:

- Providing AEMO with independent oversight across all NEM jurisdictions of TNSPs' demand forecasts,
- Improved consistency of TNSPs Annual Planning Reports, and
- Implementing a robust framework for inter-regional transmission charging

A further development would be for deterministically expressed reliability standards, set independently of TNSPs on an economic basis, to be reset where there is a clear change in circumstances. Standard setting would involve public consultation to facilitate consideration of customer willingness-to-pay.

The key benefit of Grid Australia's preferred planning and investment framework is that it allows for consultation, transparency and independent oversight around strategic national planning while allowing regional planning by profit motivated local TNSPs. This ensures that 'on-the-ground' knowledge of local conditions is efficiently considered.

AEMO, however, does not possess detailed knowledge of important local factors that impact on investment decisions. This information is necessary, however, in order to efficiently implement transmission investment plans. Overlaying financial incentives and independent oversight of investment proposals by the Australian Energy Regulator (AER) on this framework also ensures an efficient coordination of asset replacement and refurbishment decisions and incentives to identify lower cost service delivery options.

3.2 Combination of regulatory oversight of revenue requirements and incentives for improved performance

Grid Australia supports an economic regulation model with independent assessment of expenditure proposals combined with financial incentives that reward TNSPs for efficient behaviour but penalise poor performance.

The current framework delivers a robust process for the assessment of expenditure proposals. TNSPs put forward a regulatory proposal which is assessed by the AER against objectives and criteria in the Rules. This robust regulatory review framework provides predictability and transparency that TNSPs will receive adequate revenue to finance the stock of past investments, as well as the new investments that are reasonably expected during a five year regulatory period.

Importantly, due to its high profile and transparency, the revenue determination process also tends to be a key area for third parties, in particular customers, to consider and comment on TNSP's proposed investment plans.

Financial incentives provide TNSPs with the opportunity and incentive to find ways of meeting the desired objective through lower cost means, or to provide a superior outcome for the same cost, including by taking account of new information as it becomes available.

Unlike Grid Australia's preferred model, implementing AEMO's preferred model would mean that:

- There would be no independent oversight of investment proposals or the costs of running AEMO's transmission planning function. This serves to reduce the transparency of the framework and also means that the AER is unable to assess augmentation expenditure alongside replacement expenditure and operating and maintenance expenditure. This is already an issue with the Victorian arrangements.

- The absence of oversight by the AER also means that third parties, such as customers, are not afforded an opportunity to review and comment on the future investment program in its entirety. This is already an issue with the Victorian arrangements.

- The not-for-profit status of the investment decision maker precludes a comprehensive use of financial incentives to encourage efficiency in capital expenditure decisions. This is already an issue with the Victorian arrangements.

3.3 A commercially focused connections framework

Efficient connections are best facilitated by generators and customers being provided with connection options through negotiation with a single TNSP that is commercially motivated to connect new transmission users.

The framework should be open and transparent, allowing connecting parties to exercise choice and flexibility where appropriate to facilitate their commercial drivers and risk profiles. Importantly, the extent of regulation for particular aspects of connection related services should reflect their economic characteristics. In particular, where competition is effective for protecting the interests of potential connecting parties no additional regulation is necessary. Introducing regulation in this circumstance would create costs that would outweigh the benefits.

AEMO has effectively proposed a variation of the Victorian connections framework to be rolled out across the NEM. This model would see AEMO become a party to all new connections in the NEM. As has been clearly demonstrated in Victoria, doing so would significantly increase the commercial complexity for a connecting party due to the need to transact with both AEMO and the relevant TNSP. This complexity has been raised by many generators at all stages of the TFR to date. Risk allocation would also be increasingly challenging for connecting parties as the not-for-profit status of AEMO affords it no flexibility to deal with risk.

3.4 Efficient generator location signals

The evidence indicates that the current open access framework for transmission is delivering results that are in the long-term interests of consumers. Therefore, maintaining the key features of the existing framework for generator access and locational signals, while clarifying the arrangements with respect to the operation of clause 5.4A, is Grid Australia's preferred position.

However, where evidence gathered by the AEMC indicates there are barriers to efficient generator investment, Grid Australia supports further consideration and development of a regional optional firm access model similar to Package 4 in the AEMC's First Interim Report. There are a number of advantages of this model, including:

- It ensures that the level of firmness provided to generators reflects the value that they place on it,
- Compared to the existing arrangements, it has the potential to provide clearer locational signals for generators that have firm access as well as for those who do not, and
- It is a market based solution.

A commercial solution to access has considerable advantages over the model proposed by AEMO. AEMO's preferred solution would require connecting generators to negotiate an access level with AEMO while TNSPs would remain responsible for operational performance. This split of responsibilities would introduce substantial, and unnecessary, commercial complexity for connecting parties, as well as for TNSPs. It would complicate the accountability for service and operational performance given the considerable impact that network investment can have on operating the network at required performance levels. In addition, the absence of commercial motivation for AEMO would mean that there would be no incentive for it to be flexible in negotiation with generators and loads. This has created inefficiencies within Victoria to which AEMO would subject the entire NEM.

4 Response to specific issues raised in the AEMO submission

AEMO made a number of claims in its submission in an attempt to demonstrate that the current framework has failed and will not be sufficient to accommodate future challenges.

On the basis of these claims, AEMO considers that a national not-for-profit planner and procurer of the transmission network is required in the NEM. Grid Australia rejects the claims that the current framework has failed. Delivering the framework sought by AEMO would only serve to undo the gains of economic reform of electricity

markets to date. It would significantly reduce accountability in decision making and the ability to harness financial incentives to achieve socially desirable outcomes.

The remainder of this submission responds to a number of the key themes and contentions in AEMO's submission, namely:

- The coordination and application of national transmission planning,
- The use and effectiveness of deterministic versus probabilistic planning standards,
- Transparency and accountability in decision making, and
- The effectiveness of financial incentives and economic regulation.

4.1 National transmission planning

4.1.1 Co-ordination of regional and national projects

AEMO argues in its submission that there is no party responsible for the national grid and that delineation between regional and national planning will inhibit the development of transmission projects with a true national character. Specifically, AEMO states:[2]

> *"AEMO's work on NEMLink also highlights the potential benefits of better integration between national and state planning. There are some regional projects being considered by state-based transmission network service providers (TNSPs) which could be deferred or avoided. For example, an extension of the Sydney 500 kV ring network has been identified as an area where some of these benefits might accrue. However, the delineation in responsibility between the regional and national planning will inhibit the development of national transmission projects with a true national character. That is not to say that NEMLink needs to be built today. Rather, best practice planning requires a strategic direction of the national grid, which needs to be incorporated into short-term transmission expansion decisions."*

Grid Australia supports the AEMO statement that best practice planning requires incorporation of a strategic view of the national grid into short-medium term transmission planning.

However, this is exactly the intent behind the NTP framework and the Rules requirement for TNSPs to have regard to the NTNDP when developing their APRs – the best practice framework sought by AEMO already exists. Conferring the decision making for short-medium term planning on AEMO removes the desirable consequences of profit-motivated TNSPs making investment decisions in response to financial incentives.

[2] AEMO Submission to TFR First Interim Report, pp. 13-14.

In addition, AEMO cites reviews by Parer and ERIG as examples of other commentators concerned at a lack of a nationally coordinated transmission planning. AEMO has ignored, however, that today's framework exists as an outcome of those reviews. As a consequence, Grid Australia contends that these views are anachronistic and no longer valid given the significant reform of transmission frameworks that has occurred since then.

Grid Australia has particular concerns with AEMO's apparent claims that the current framework allows inefficient regional projects to progress while preventing national strategic projects such as NEMLink from being delivered.

In fact, the current framework ensures that efficient regional projects proceed in light of national objectives, TNSPs seek to actively engage and consult with all relevant parties prior to proceeding with a particular investment option in order to ensure that it best meets the required need.

Should AEMO, or any other party, consider a particular project is inefficient there are numerous opportunities to challenge the development plans of TNSPs or propose alternatives. Arrangements that ensure TNSPs have proper regard to all available solution options and properly consider strategic national flow paths include:

- The Rules require TNSPs to take into account the most recent NTNDP when undertaking their annual planning review. A TNSP's APR must, in sufficient detail, provide information on how the proposed augmentations relate to the most recent NTNDP and the development strategies for current or potential national transmission flow paths within it.

- When a network need is identified TNSPs must undertake joint planning with other network service providers in order to determine plans for consideration by Registered Participants, AEMO and other interested parties.

- TNSPs are required to extensively consult while undertaking the economic assessment of projects through the RIT-T, including specific arrangements for consultation with AEMO. During this, AEMO, or any other party, is able to make a submission to the TNSP to either contest the analysis or to identify alternatives.

- Where AEMO or other parties are not satisfied that a TNSP has properly applied the RIT-T, or properly undertaken its assessment of preferred options, it can dispute the TNSP's findings with the AER. When a dispute arises the AER can direct a TNSP to amend its project assessment. This includes if the AER determines that the TNSP has not applied the RIT-T in accordance with the Rules or there was a manifest error in the calculations performed.

- In undertaking its Last Resort Planning Power (LRPP) the AEMC may request advice from AEMO and must also have regard to the NTNDP and APRs.

In summary, there are many opportunities available to AEMO to contribute to, or dispute, the planning of a proposed project. Therefore it is not clear, if AEMO genuinely considers that TNSPs are making poor planning decisions, why it has not raised disputes or formally questioned any of the projects it has identified in its submission in the past.

In its submission, AEMO appears to specifically identify an extension of the Sydney 500 kV ring network as an example of a project which could be deferred or avoided in preference to AEMO's proposed NEMLink project. This characterisation fails to acknowledge that extension of the Sydney 500 kV ring is in fact part of the NEMLink concept. In AEMO's 2010 NTNDP the NEMLink concept assumes the eventual development of components of the Sydney 500 kV ring.[3]

Moreover, the next proposed extension of that network, a Bannaby-Sydney 500 kV line, is yet to undergo the regulatory consultation process. As noted in TransGrid's 2011 APR, it plans to initiate a RIT-T in 2011/12 to address the limitations for which a Bannaby-Sydney 500 kV line development would be a credible option. That consultation process will provide for AEMO's engagement in the assessment of that project proposal.

That is, contrary to AEMO's statements, the proposed extension of the Sydney 500 kV network in fact provides a good example of the current framework facilitating the coordination of regional and national projects. The coincident development of the Sydney 500 kV ring and NEMLink concept illustrates the ability of the current framework to align nationally strategic projects with options to meet regional reliability standards and license conditions.

It is also relevant to note that while it is appropriate that nationally strategic projects are considered, this does not stop the need for TNSPs to undertake their core functions and deliver reliable supply to customers in the interim.

As stated in the most recent NTNDP, the NEMLink project only *approaches* breakeven around 2020-2021, and this is only under an optimistic set of assumptions.[4] TNSPs, however, have reliability standards that must be met in accordance with their license conditions. Therefore, they cannot rely upon a project going ahead 10 or more years in the future that is only economic under a range of assumptions that can vary over time. As a consequence, additional regional investment in preference to speculative national investments may simply be a necessity in order to continue to provide reliable supply to customers.

---

3 AEMO, *2010 NTNDP for the National Electricity Market*, 2010, p. 135.

4 AEMO, *2011 NTNDP for the National Electricity Market,* 2011, p. 6-1, and AEMO, *2010 NTNDP for the National Electricity Market*, 2010, p. 135..

On a final note, a statement made by AEMO in response to one of the AEMC's proposed planning options sees it acknowledge that the current framework of national co-ordination is working[5].

> *"AEMO notes that there is already significant coordination between the TNSPs already particularly where a national response to delivering economic benefits appears to be more efficient than a local one the NTNDP explores solutions to network limitations without regard to regional borders. For example, AEMO, ElectraNet, and TransGrid are jointly considering the reliability of the South Australian Riverland area and exploring cross-border solutions between Victoria, South Australian, and New South Wales."*

4.1.2 Are the right projects being assessed and going ahead?

AEMO claims that there are a number of examples that demonstrate a failing of the current framework to deliver necessary investment due to the lack of accountability for the national grid. Specifically, AEMO has cited the South Australia – New South Wales Interconnector, the South Australia to Victoria Interconnector de-rating investigated by the AER in 2009, and limitations affecting Murraylink's transfer capacity.

In the first instance, it is relevant that the majority of projects referred to by AEMO relate to a period before the current framework incorporating an NTP and the RIT-T. Conversely, current and forthcoming RIT-T assessments for upgrading both the South Australia – Victoria (Heywood) and Queensland – NSW (QNI) interconnectors demonstrate that the current framework facilitates the proper consideration of investment in interconnectors via joint planning between jurisdictions.

Findings from the AEMC's application of the LRPP support the view that the current framework ensures the right projects are being assessed and progressed. In its latest annual report for the LRPP the AEMC stated:[6]

> *"The Commission received advice from Intelligent Energy Systems (IES) which indicated that each JPB [Jurisdictional Planning Body] appears to be progressing projects which adequately address all the relevant inter-regional planning issues or opportunities identified by AEMO. Accordingly, the Commission has decided that there is no material reason for the exercise of the LRPP in 2011."*

Given the current high level of activity around interconnector investments, the fact that all NTNDP priority projects are under consideration, and the findings of the AEMC under its LRPP, it is not clear to Grid Australia what projects AEMO considers should be proceeding that are not. If AEMO is able to identify such projects

---

5 AEMO Submission to TFR First Interim Report, p.48.

6 Australian Energy Market Commission, *Last Resort Planning Power Review: 2011 Decision Report*, AEMC, 3 November 2011, p.ii.

Grid Australia would recommend that these be put forward by AEMO in any of the numerous planning forums available to it.

With respect to interconnection between South Australia and Victoria, AEMO makes specific claims that Murrarylink's capacity is currently less than originally intended because in 2004 'there was no mechanism by which the ACCC could compel the jurisdictional planning bodies'[7] to install 'run-back' scheme equipment in NSW and Victoria. As Grid Australia has emphasised above, failures of the previous regulatory regime (which applied, in effect, until the first NTNDP was published in 2010) are no longer relevant. The fact is that TransGrid and the operator of Murraylink, the APA Group, are currently in discussions about completing the implementation of the runback schemes in NSW.

Grid Australia understands that the APA Group's recent approach to TransGrid to complete the implementation of the run-back schemes in NSW was preceded by an approach from AEMO. It is not clear, however, whether AEMO's involvement in this instance was as the National Transmission Planner or as the Victorian jurisdictional planner. It is also unclear why AEMO made no mention of the NSW runback schemes in its 2010 NTNDP if it is of the view that a run-back scheme has been necessary for an extended period of time.

Nevertheless, both the 2011 NTNDP and TransGrid's 2011 APR have noted that the operators of Murraylink have now undertaken to carry out the works to complete and implement the runback schemes. This outcome demonstrates that the current framework is working to ensure the delivery of necessary projects and specifically to allow for the optimal performance of Murraylink.

A further good example of how the current arrangements for interregional transmission planning are working is the joint investigation by ElectraNet and AEMO, in its role as the Victorian jurisdictional planner, of options to reinforce transmission capacity for the Riverland in South Australia. ElectraNet's Annual Planning Report identifies an emerging reliability driven network limitation in the Riverland. This limitation could ultimately require the construction of new transmission lines to reinforce the Riverland transmission system.

However, ElectraNet and AEMO have initiated a joint working group to investigate less costly solution options for meeting the Riverland reliability requirement that take into account requirements in both the Riverland in South Australia and Western Victoria. TransGrid and Murraylink have also been engaged in this process. The outcomes of this work are expected to result in lower cost solution options that would defer the need for more costly new transmission lines for many years.

[7] AEMO Submission to TFR First Interim Report, p.13

4.1.3 Co-ordination between electricity and gas

AEMO states in its submission that electricity and gas transmission frameworks do not interact and this leads to inefficiency. Specifically, AEMO states:[8]

> *"To deliver the most efficient response to the challenges of the future, Australia's transmission regulation and planning regime must optimise network development on a national basis."*

AEMO states that the lack of coordination manifests in generators locating inefficiently closer to fuel sources rather than to the existing electricity transmission network.

Grid Australia supports the idea of mechanisms to assist the economy's coordination of investment between the gas and electricity transmission sectors. However, this does not require decision-making by a central planner.

Grid Australia has fundamental concerns with AEMO's proposed solution to address the perceived gap in the framework. AEMO's preference appears to be for a 'command and control' approach to energy network decisions. Conversely, a more incremental and measured approach is likely to be most suitable in this instance.

AEMO's statements regarding the coordination of gas and electricity investment ignore the current gas framework and how investment decisions are made in this sector. Gas transmission investments are highly commercial and tend to be backed by long-term agreements with key network users. Given the commercial arrangements for gas transmission, as well as the scope for pipeline competition, many gas transmission assets are unregulated. In addition, gas fired generators also operate in a competitive market where investment decisions are driven by market signals rather than central planning decisions.

Implementing AEMO's suggested approach to the coordination of gas and electricity network investment would require it to direct the decisions of privately owned businesses operating in a commercial market. This seems to be at odds with the competition policy reforms which recognised the importance of de-centralised investment, production and consumption decision-making, and the use of information such as prices to promote economic efficiency.

Potential customers of gas and electricity transmission networks will employ commercial negotiation to determine whose services they will buy. As a consequence, the market will coordinate the efficient development of the two networks. The effectiveness of a market driven approach is demonstrated in south west Queensland where the transmission network has grown due to investment in gas as a power generation fuel.

[8] AEMO Submission to TFR First Interim Report, p.4

To the extent there is any evidence to justify AEMO's expressed concern about the coordination of electricity and gas network investments, a number of more proportionate responses are available. A preferred solution should be to influence the commercial drivers for investment so that efficient decisions are made. This can be achieved by, for instance, strengthening the locational signals for electricity generators. This would serve to remove, or limit, any potential bias between gas and electricity network infrastructure. Indeed, this is a fundamental aspect of the AEMC's current review. Tools such as the NTNDP may also have a role in providing information to participants in both sectors so that investment decisions are fully informed.

4.2 Deterministic planning standards

The AEMO submission makes considerable effort to discredit deterministic planning standards in preference for the probabilistic standards it applies in Victoria. The key contention of AEMO appears to be that deterministic standards, as a rule, over-value the benefit customers receive from reliability improvements.

AEMO claims that this is also the case for economically derived deterministic standards given jurisdictional restrictions, such as their application for fixed periods, prevent its proper application. In addition, AEMO considers that the planning method specifically applied in New South Wales (NSW) and Queensland often prevents consideration of alternative inter-regional options to address local needs.

Grid Australia accepts that economically derived deterministic standards can at times over or under-value reliability. This can occur where there has been a material change in customer preferences or input costs over a period of time. However, the criticisms by AEMO of deterministic planning standards demonstrate incapacity to separate implementation issues with a theoretical discussion of the different types of standards. It also demonstrates that AEMO have not been able to recognise that the issue of *who* plans the network can be independent of *how* the network is planned.

In response to the issue of differences in the value of reliability arising due to a material change in circumstances, AEMO proposes dispensing with deterministic standards in preference for probabilistic standards. However, this ignores the known problems with the application of probabilistic standards and would remove a number of benefits of applying deterministic standards, for instance:

- Unlike probabilistic standards, deterministic standards are consistent with electricity system operating standards and outline a level of service that customers can expect from the transmission network.

- The outcomes from a probabilistic assessment can be crude and far removed from the scientific approach implied by AEMO. The application of probabilistic standards involves a considerable number of assumptions and uncertainties. For instance, measuring the value of customer reliability is particularly

challenging and prone to inaccuracy. While some of these forecasting issues may also apply to economically-derived deterministic reliability standards, it is misleading of AEMO to suggest that the same sorts of issues do not apply to probabilistic standards.

- Given the method for applying a probabilistic standard, and the assumptions required, this approach also tends to have reduced transparency and predictability when compared to a deterministic standard. Under probabilistic planning, there is typically a higher level of uncertainty about the drivers for investment, and the resulting forecast projects included in the assessment actually occurring.

- Applying probabilistic standards makes it difficult for the AER to provide an independent assessment of future investment proposals. This is because there is less transparency about what the standard is and therefore which projects may be needed to meet this standard. In doing so, accountability in the framework is considerably reduced.

A more proportionate response to the issues raised by AEMO would be to address the implementation issue. For instance, off-ramps could be determined such that economically derived, but deterministically expressed, planning standards are reset where there is a material change in circumstances that mean the current standard may over or under-value reliability. Standard setting in these circumstances would involve public consultation to facilitate consideration of customer willingness-to-pay.

Grid Australia is also concerned about AEMO's claims that the planning approach in NSW and Queensland often prevents consideration of alternative inter-regional options to address identified needs. AEMO appears to have confused the identification of network needs with option development. In practice, once a need has been identified the engineering analysis used to develop options is independent of analysis undertaken to identify the need. Therefore, when developing options TNSPs ignore regional or State boundaries and seek the most efficient solution. Indeed, to do otherwise would be inconsistent with the requirements of the RIT-T. Evidence supports the view that TNSPs consider options outside regional boundaries with examples such as TransGrid's current analysis of solutions in the Victorian 220kV system to reinforce supply to south west NSW.

Finally, Grid Australia wishes to address AEMO's factually incorrect claims about the application of a deterministic planning standard in NSW. While it is not clear in AEMO's submission which project is referred to, it appears to be TransGrid and Essential Energy's Development of Electricity Supply to the NSW Far North Coast Project. This is assumed based on AEMO's statement that *"The N-1 criteria are breached in 2010-11"*, which aligns with statements in the original proposal for the Far North Coast Project when it was assessed under the regulatory test in 2009.

If this is the project referred to by AEMO, then AEMO makes a number of factual errors:

- AEMO claims that *"The effect of a strict interpretation to N-1 can be understood with a review of a RIT-T in NSW by TransGrid and Country Energy"*[9]. In fact, the new planning regime, including the introduction of the RIT-T, came into effect progressively from 1 July 2009, and TransGrid has not yet completed a RIT-T on any project let alone the project referred to by AEMO in this instance.

- AEMO goes on to claim that *"The N-1 criteria are breached in 2010-11"*[10]. This statement is incorrect as the N-1 criteria for the region have not been breached. TransGrid's deferral of the project from 2010/11 to 2014/15 was due to changes in the load forecast[11]. This fact is recorded in public documents. For example, in TransGrid's 2010 APR the load forecast for the Essential Energy Connection Point Summer Peak Demand at Lismore was 130 MW and 33 MVAr[12], however the change in the load forecast in the intervening period lead to the 2011 APR showing the same connection point not reaching the same level of load until summer 2015, when the forecast load is 131MW and 33MVAr[13].

- AEMO claims that the project as proposed under the regulatory test in 2009 implies a customer value of reliability 150 times greater than a value supplied by AEMO. AEMO states that *"In what appears to be an acknowledgement of this value TransGrid and Country Energy have deferred the augmentation beyond the strict application of the standard to 2014-15"*[14]. As noted above, the deferral of the project was due to a change in the load forecast and is therefore not an 'acknowledgement' of AEMO's calculations.

Notwithstanding AEMO's factual errors, it is impossible to assess the validity of AEMO's claim about the cost-benefit analysis of the Far North Coast Supply project – that is, that *"the proposed augmentation would not be cost-beneficial until at least 2018-19"*. AEMO has not disclosed how it arrived at this conclusion. If and when TransGrid or Essential Energy undertake a RIT-T on this or any other project, then AEMO will have the opportunity to review the cost-benefit analysis as part of a transparent consultation process.

4.3 Transparency and accountability in decision making

In comparing the approaches to planning and investment in the NEM to that of Victoria, it is relevant to focus upon the differences in transparency and accountability in each framework.

---

9 AEMO submission to First Interim Report, p.15

10 AEMO submission to First Interim Report, p.15

11 TransGrid's 2012 Annual Planning Report will be published in July 2012 and will contain the most recent load forecasts.

12 TransGrid, *New South Wales Annual Planning Report 2010,* 2010, p.109

13 TransGrid, *New South Wales Annual Planning Report 2011*, 2011, p.110

14 AEMO submission to First Interim Report, p.15

Outside Victoria there is a considerable level of independent oversight of network and investment plans and decisions. This is provided by AEMO through the NTP, the AER as the economic regulator and the AEMC as the LRPP. Conversely, there is no independent oversight of AEMO's network plans in Victoria. As the AER no longer undertakes revenue determinations for augmentations, or the costs of AEMO in its role as a TNSP in Victoria, there is no independent assessment, or third party check, that AEMO's expenditure proposals are efficient and prudent.

The implication of this lack of oversight of AEMO's actions is that costs can be imposed on customers with little or no scrutiny of their efficiency. This is at odds with how the rest of the NEM operates and it is also at odds with how governments make decisions that have a similar impact on tax payers. Governments are required to have proposals that impact on the tax base passed by two houses of parliament, following scrutiny via various parliamentary committees. AEMO's actions, however, arguably impose costs on a broader tax base than government with significantly less, or no scrutiny.

The lack of oversight by the AER of AEMO's activities also inhibits the capacity for third parties, and customers in particular, to assess and comment on investment proposals in Victoria. This includes an inability to compare and contrast augmentation proposals with proposed replacement and operating and maintenance expenditure. There is also no ability for the AER to identify the total price that customers will pay in Victoria at the time of a determination, absent the costs imposed by AEMO. This limits the ability for customers to benchmark and compare proposed prices in Victoria to other regions.

AEMO often claims that its competitive tendering process means that augmentation costs will be efficient and no additional oversight is necessary. However, this view presumes that an effectively competitive market exists for alternative TNSPs to provide major works on the shared network in Victoria. To date there has been no independent assessment undertaken of the effectiveness of competition for the provision of prescribed transmission services in Victoria. In addition, AEMO's claims also seem to ignore the considerable transaction costs associated with its tendering process. As a consequence, Grid Australia suspects that the benefits from AEMO's tendering process are likely to be more imagined than real.

The split of responsibilities in Victoria also has a further implication with respect to the obligations for service performance. Under the Victorian model accountability for meeting performance standards across the system is dispersed. Network augmentation, renewal and operating and maintenance expenditure are all substitutes for delivering improved service performance. However, the responsibility for delivering on each of these aspects resides with different parties in Victoria.

Asset owners are accountable for network element availability via various incentive schemes, including through service contracts with AEMO (in its role as Victorian TNSP), and the AER's Service Target Performance Incentive Scheme (STPIS). AEMO itself is not subject to financial incentives for performance inherent in the

network design reliability standard provided. The dispersed accountability for system performance makes it difficult to integrate the required trade-offs between the options to optimise network management.

4.4 Effectiveness of financial incentives and economic regulation

AEMO's submission made a number of statements denigrating the ability for the current framework for economic regulation, and the incentive based framework, to encourage efficient outcomes.

Grid Australia considers that the statements by AEMO in this area reflect a fundamental misunderstanding of economics and are contrary to the widespread view of credible regulators in Australia and internationally. The remainder of this section addresses AEMO's claims with respect to cost based regulation and incentives respectively.

4.4.1 Cost based regulation

AEMO claims that the building block approach closely resembles rate-of-return regulation. AEMO specifically refers to the Averch-Johnson effect to support its claim that this approach to regulation provides an incentive for TNSPs to over-invest in its asset base. However, this represents a fundamental misunderstanding of how economic regulation works in Australia and the NEM.

The application of an ex-ante revenue cap in transmission means that TNSPs are in fact penalised for any additional dollar that they spend. It follows that TNSPs have an incentive to consider whether the relevant project is necessary at all or can be delivered at lower cost before proceeding with an investment.

Professor Alfred Kahn, one of the leading thinkers in modern economic regulation has commented specifically on the potential for cost based regulation to encourage excessive capital expenditure (known as the Averch-Johnson effect). Professor Kahn considers that penalties associated with inefficiently building the asset base provides a disincentive for the behaviour cited by AEMO, due to businesses retaining a penalty for overspending for a period of time:[15]

> *Observe that the A-J-W tendency prevails only to the extent that regulation approaches instantaneous effectiveness in holding realised rates of return to a single, legally prescribed level. Only in these circumstances could regulated companies, without fear of loss, undertake investments the marginal product of which fell short of their cost of capital: only if the rate if return that they were previously earning was already at the legal minimum and only if, after these investments were made, rates could instantaneously be raised on the inelastic portions of the business to hold the returns to that minimum would there be no losses to offset the benefit of the expected*

[15] A.E. Kahn, *The Economics of Regulation, Principles and Institutions,* Vol II, New York, 1998, pp.56-57. Kahn's references to the Averch-Johnson effect also acknowledge the work of Wellisz in this area.

> *rate base. Only if, to look at it from the opposite direction, all reductions in cost were instantaneously to take those cost-savings away from them, could regulated companies afford to have compunctions about adopting excessively capital-intensive, hence cost inflating methods of production.*
>
> *But in fact regulation is far from instantaneously effective. The consequence is that the profits of public utility companies would, for longer or shorter periods of time and with considerable market of uncertainty about the speed of recoupment, suffer from the undertaking of investments that do not themselves return the cost of capital. Moreover, regulatory commissions seem, typically and understandably, to be much more generous about the rates of return they are prepared to permit in a context of stable or declining rates than when faced by company requests for rate increases. In these circumstances, regulated companies may have a stronger incentive to reduce costs, which enables them to earn a gently rising return for substantial periods of time on a rate base that grows only to the extent justified by comparisons of marginal returns and marginal cost of capital, than to make uneconomic investments in the expectation of being permitted rate increases on inelastic portions of their business sufficient to increase their total profits.*

These comments from Professor Kahn were made in the context of United States rate of return regulation, where either side can file for a price change at any time. In Australia, where fixed regulatory periods apply, the potential for excessive capital expenditure is even less.

It is also relevant to note that the perspective from AEMO is also at odds with advice provided to the AEMC by Professor Yarrow as part of its consideration of the AER's proposed economic regulation Rule changes. In his advice to the AEMC Professor Yarrow notes that more commonly the basic problem in regulation is one of potential underinvestment.[16]

4.4.2 Effectiveness of financial incentives

AEMO also comments more directly that it considers that it is not possible to design incentives for efficient network investments compared to the outcomes that can be achieved through a not-for-profit approach such as that adopted in Victoria. Specifically AEMO stated:[17]

> *"However, as demonstrated above, the financially motivated regulated business model has not delivered efficient outcomes compared with the not-for-profit approach adopted in Victoria.*

and:[18]

[16] G. Yarrow, *Preliminary views from the AEMC,* p.2

[17] AEMO Submission to TFR First Interim Report, p.51.

[18] AEMO Submission to TFR First Interim Report, p.51.

> *"...The application of the RIT-T and the various regulatory requirements for reporting and planning are poor substitutes for the incentives needed. AEMO considers that it is not possible to design such incentives given the nature of transmission investment and investment in a network. As a result, we consider that a single NEM-wide transmission planning and procurer represent the preferred option."*

AEMO's perspective of the relative advantages of a not-for-profit framework over incentive based regulation is contrary to the widespread view amongst regulators and economists that well designed incentive based arrangements lead to more efficient outcomes than would be achieved by direct regulatory intervention.

Professor Alfred Kahn also commented on whether private incentives or government control drive the most efficient outcomes. In doing so, Professor Kahn identified the limitations of regulations as compared to markets and incentive regulation as follows:[19]

> *"What institutional incentives, compulsions, and arrangements will play the same role where "the invisible hand" of competition is for one reason or another infeasible? "The visible hand of regulation" is not a sufficient answer. The reason, as we shall see more fully below, is that in a society that profoundly respects the institution of private property, the initiative, operating control, and responsibility for economic performance continue, even under regulation, to rest primarily with private management. The role of government remains essentially negative – setting maximum prices, supervising expenditures, specifying minimum standards of service, in short, contravening the decisions of private persons only after the fact, only when their performance has been or would otherwise be obviously bad. In these circumstances regulation cannot supply the same assurances as competition that performance will be positively good – efficient, progressive, risk taking, innovative. Its most important task is to define and develop institutional arrangements that will provide correspondingly powerful incentives and pressures on regulated monopolists"*

It is also important to understand that the financial outcomes that arise from management decisions provides a feedback loop to a commercial business about where improvements can be made in the future. That is, profit outcomes allow firms to learn from past behaviours and make improvements for the future.

This feedback loop does not exist for not-for-profit entities and there is no obvious and transparent mechanism for them to monitor performance. Therefore, it is not possible, or at least very difficult, for a not-for-profit entity such as AEMO to learn from its past behaviour and improve its performance over time. Unfortunately, it often requires manifestly inefficient outcomes to occur before such organisations reflect on their performance and the way that they undertake their roles.

[19] A.E. Kahn, *The Economics of Regulation, Principles and Institutions,* Vol I, New York, 1998, P.18.