NATIONAL GENERATORS FORUM

8 May 2012

Commissioners Philip Weickhardt and Wendy Craik
Electricity Network Regulation
Productivity Commission
GPO Box 1428
Canberra City ACT 26001
electricity@pc.gov.au

Dear Commissioners

The National Generators Forum welcomes the opportunity to comment on the Productivity Commission's, *Electricity Network Regulation – Issues Paper*, released publicly in February 2012.

The NGF is the national industry association representing private and government owned electricity generators. NGF members operate all generation technologies, including coal-fired plant, gas-fired plant, solar, bio-waste, hydroelectric plant and wind farms. Members have businesses in all States and Territories.

There has been a 35% real price increase in retail electricity over the past four years and further substantial increases in prices are forecast through to at least 2020. The NGF notes that over this time the nominal cost of wholesale electricity has declined in all National Electricity Market regions.

The dominant factor driving the rising retail price of electricity has been the cost of maintaining and investing in transmission and distribution network assets to meet jurisdictional planning and reliability obligations. The regulation of network assets and efficient pricing of these services is a significant challenge for government due to the absence of market forces on these natural monopolies.

The NGF is concerned that the current regulatory arrangements are not achieving an efficient outcome.

Benchmarking, at least in theory, should be able to establish industry 'best practice' in the provision of network services and provide regulators with additional information on the relative productive efficiency of service providers within Australia, as well as provide a comparison with international providers.

This would provide additional information to regulators and enable the introduction of incentives for networks to improve productive efficiency.

Appropriate benchmarking in the Australian context will need to recognise inherent differences in network services across Australia including differences in geography, regulatory requirements and population density.

Despite these challenges the NGF believes that benchmarking approaches which provide reliable and consistent measures of performance should make the regulatory task more robust.

Current interconnector investment arrangements

Generators rely on the transmission system to access the market and earn revenues. Generation businesses study the transmission system in great detail and the investment plans of transmission businesses. NGF members have participated in the development of the Rules governing transmission planning and investment since the National Electricity Market (NEM) was established. The arrangements for assessing and approving interconnector projects and augmentations have evolved and improved substantially in this time.

The NEM operates across an integrated network that spans Eastern Australia, and is premised on inter-regional competition and trade. Inter-regional trade takes place across interstate interconnectors that link the NEM regions. The majority of NEM interconnectors are 'regulated', meaning that these assets have been found to be economically justified and passed the AER's 'regulatory test', described below. The TNSPs that own these interconnectors receive a fixed annual revenue based on the value of the asset, as determined by the regulator. Australia has one unregulated (or 'market') interconnector – Basslink, which links Tasmania with Eastern Australia. Basslink essentially earns its revenues by a process of arbitrage – purchasing energy in a lower priced region and selling it to a higher priced region.

The NEM governance arrangements aim to ensure that inter-regional trade occurs where this is efficient and in the interests of customers. TNSPs are required to prepare Annual Planning Reports (APRs) that describe the network development plans for their respective regional transmission networks, while the AEMO prepares a National Transmission Network Development Plan, which coordinates the APRs of the individual jurisdictions and provides a long-term vision for the development of the integrated grid. The capacity for inter-regional trade is assessed as part of this process. The NEM Rules provide that significant transmission investment will take place (including investment in interconnectors) if it is economic to do so, that is, if it passes the 'regulatory investment test for transmission'.

In addition to the standard NEM planning provisions, the NEM Rules additionally confer upon the AEMC a Last Resort Planning Power (LRPP). The LRPP is an oversight power designed to ensure that efficient inter-regional transmission investment occurs where this is in the long term interests of consumers. It allows the AEMC to direct TNSPs to apply the RIT-T to a project which is likely to address any shortfall in inter-regional transmission investment. The AEMC has never considered it necessary to exercise this power.

The NEM governance arrangements are designed to facilitate inter-regional trade, and planning studies are conducted on a regular basis to ensure that the capability of the network is such that efficient trade can take place. These responsibilities are shared by regional planning bodies and the AEMO to ensure that the overall NEM objective is achieved.

The regulatory investment test

Since commencement, the NEM has incorporated a regulatory investment test in one form or another which has set out a cost benefit test to network investments, including interconnector projects.

The original National Electricity Code included a customer benefits test applied by then NEMMCO and Inter-Regional Planning Committee and transmission businesses to assess transmission developments.

In 1998 NEMMCO assessed the proposed SA-NSW interconnector using then customer benefits test. During its assessment, NEMMCO identified a number of problems with the test including conflicting assessment criteria. In response to these concerns, the ACCC, as an independent party, was request to review the customer benefits test.

In 1999 the ACCC developed the first regulatory test. After the initial stages of its operations, the ACCC undertook a comprehensive review of the regulatory test and in 2004 released the regulatory test version two. Following the inclusion of detailed regulatory test principles in the Electricity Rules in 2006, the AER released version three of the regulatory test in November 2007. Under these principles, the broad approach to the regulatory test remained, however the AER was required to incorporate new concepts for new large transmission network assessed under the market benefits limb of the test. For these investments, the principles included requirements that TNSPs gather information on alternative options also assess the likelihood of alternative options. The AER was also required to develop guidelines to assist NSPs in applying the regulatory test.

At the request of the MCE, the AEMC consider a Rule change proposal in 2009 that removed the distinction between reliability driven projects and projects which may deliver market benefits. Under clause 5.6.5B(b) of the Electricity Rules, the RIT-T must identify the option that maximises the present value of net economic benefit to all those who produce, consume and transport electricity in the NEM.

The AER undertook a review of the regulatory test for transmission in 2009 which looked at a range of improvements to the existing test which included the development of detailed guidelines for the application of the test. The current Regulatory Investment Test – Transmission (2010) Guidelines (RIT-T) provide detailed information on the operation and application of the RIT-T, the process to be followed in applying the RIT-T and how any disputes will be addressed and resolved.

The NGF considers that after more than ten years of reviews, development, improvement and refinements, the NEM now has a robust and thorough assessment process to consider and measure the net efficiency gains from any interconnector project.

The RIT-T sets out the economic appraisal framework for network projects

The RIT-T is intended to promote efficient transmission investment in the NEM and to ensure greater consistency, transparency and predictability in transmission investment decision making. The test is applied to all significant network investments to ensure that the benefits of a project investment (for instance, in terms of cost savings from inter-regional trade or improved reliability of service outcomes for customers) warrant its costs, and that the proposed project delivers the greatest benefits from the range of choices available. As such, the RIT-T takes the form of a comprehensive economic cost benefit analysis that must be approved by the regulator following a process of review and consultation.

The RIT-T accounts for the impact of climate change programs, including the carbon price and renewable energy target, through the modelling of expected changes in generation investment patterns as a result of these programs. In preparing reasonable scenarios of future demand and supply, the project proponent would calculate any savings in both capital and operating costs incurred by meeting environmental targets by comparing plant development and market dispatch outcomes for a credible option to the base case. If there are growing differences in relative fuel costs between regions as a result of carbon pricing, this difference will be captured in the current methodology. We do not see any need to change the RIT-T to facilitate any investment in a particular lower emission technology.

Application of the RIT-T to interconnector investments

The NGF concedes that the existing NEM transmission framework is not perfect, certainly not as measured against a highly idealised paradigm in which generation and transmission investment are co-optimised. Arguably, such an outcome can only be achieved in a centrally planned and operated electricity system. However, such centrally planned arrangements have been shown to encourage a range of other inefficiencies, as well as being prone to the influence of vested interests and political error/interference.

That said, defining the role and governance of transmission is one of the most difficult challenges in any wholesale market design. Transmission has strong natural monopoly characteristics and must therefore be regulated. Transmission services can also complement and substitute unregulated services such as generation, creating complex interdependencies in the planning and operations of transmission networks. In this context, the RIT-T plays a central role in balancing the costs and benefits of transmission against non-network alternatives, or of access to more remote versus local generation.

The NEM Rules relating to transmission therefore provide for a number of obligations on TNSPs (as well as AEMO), as well as a mix of price and non-price signals and incentives with the objective of promoting efficient decision making and aligning generation and transmission investment. While there is always room for improvement, key elements of the transmission framework have been significantly strengthened in recent years. They include the publication of regional and NEM-wide transmission development plans, the revised RIT-T as a consistent evaluation framework to determine (reliability and market) investment in the shared grid, and an incentive regulation framework that aims to improve the accountability of TNSPs.

Transmission investment has generally kept pace with new generation investment, so that consumers have benefited from competitive electricity supplies in an interconnected market. There is little or no evidence to suggest that the existing framework is encouraging systematically poor operational or investment outcomes.

A profit-seeking TNSP will seek to invest in any project – whether driven by reliability standards or market benefits – so long as it stands to make a reasonable return. Before committing to a network investment, a TNSP must apply the RIT-T to that investment. The purpose of the RIT-T is to ensure that a transmission investment is only undertaken where it offers the greatest net benefits in addressing a particular congestion issue. This requires TNSPs to trade-off the expected future costs of congestion with the costs of a proposed augmentation, as well as against the costs of alternative options. The RIT-T process provides several opportunities for participants and prospective investors to propose non-network options or dispute the TNSP's assumptions.

The Productivity Commission Issues Paper suggests that TNSPs have relatively weak incentives to invest in inter-regional transfer capability when compared to intra-regional investment to be used to meet jurisdictional reliability standards.

More generally, however, the NGF would argue that the main reason why inter-regional investment has not been undertaken in recent years is because the resulting benefits have not merited the very significant investment in major new transmission lines, for instance, because of similar fuel costs in adjacent regions. This would include using interregional investment to meet intraregional reliability standards. We note that Powerlink/TransGrid have and are reviewing upgrade options for the QNI, but have not found upgrade projects to satisfy the investment test. Similarly, VENCorp has reviewed upgrades to the Heyward interconnector on a number of occasions; this investment is also currently the subject of a RIT-T study by ElectraNet/AEMO.

The Last Resort Planning Power vested in the AEMC is a mechanism for triggering cost-benefit assessments of potential projects if TNSPs are not responding to a material problem in a timely manner. However, the AEMC notes that these reforms do not extend as far as ensuring that TNSPs will undertake all such investments.

The NGF considers that the RIT-T, in combination with the incentives provided by the transmission building block regulatory regime, is capable of promoting timely and net beneficial transmission investment. Furthermore, there is no reason why TNSPs should not be willing to apply the RIT-T to investments geared towards producing net market benefits, such as interconnectors. As long as the regulatory rate of return is sufficient and/or the incentives for good service performance are attractive, TNSPs should be willing to invest in all types of regulated projects irrespective of the investment driver.

The RIT-T requires a market benefits framework to be applied to all types of transmission investment, including those for 'reliability corrective action'. Therefore, the obstacles and challenges to market benefit-driven investment should no longer be substantially greater than for reliability-driven investment. If there is a problem with TNSPs' incentives to pursue market benefit investments, this is more likely to relate to commercial factors. If that is the case, it would be better to address those issues directly, rather than further amend the RIT-T or surrounding regulatory arrangements.

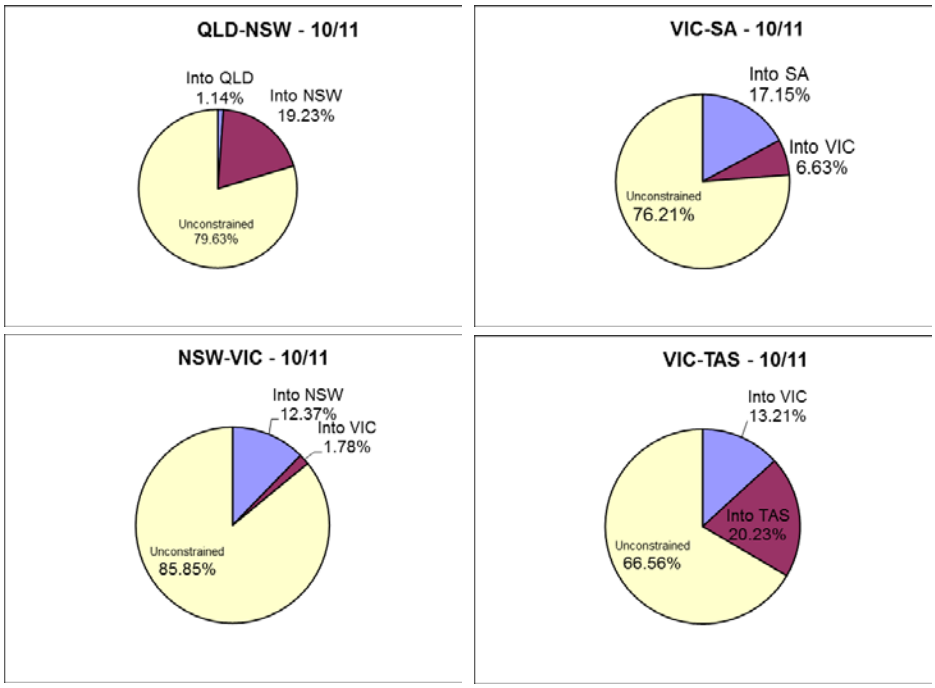
The NGF further notes that requiring TNSPs to undertake certain investments risks undermines the existing governance and accountability framework. As it stands, the transmission framework requires TNSPs to deliver certain reliability and other outcomes, and to invest in and manage their networks accordingly. A requirement to undertake certain investments would undermine this linkage; if the investment was ineffective or otherwise inefficient, no party could be held accountable. This highlights the NGF's view that if there is perceived to be an investment problem, TNSP's governance arrangements should be amended, rather than imposing relatively arbitrary investment requirements on them.

In summary, the NGF is not convinced of the need for an obligation on TNSPs or any additional incentive framework to undertake interconnector investments.

Scope for interconnector upgrades

The following charts show the incidence of price separation on each major NEM interconnector in 2010-11. For the vast majority of half-hours there is little or no congestion.

NEM Congestion – 10/11



More important, however is an assessment of the degree of price separation when congestion does occur.

Attachment 1 shows during 2010-11 price separation was less than $50 MWh for more than 90% of the time on each interconnector during those periods when congestion did occur.

A further breakdown of these numbers shows the percentage of half hours when price separation on constrained interconnectors was less than $10 MWh.

- Queensland to NSW – 79%
- NSW to Queensland – 64%
- NSW to Victoria – 62%
- Victoria to NSW – 79%
- Victoria to South Australia – 70%
- South Australia to Victoria – 93%
- Victoria to Tasmania – 95%
- Tasmania to Victoria – 95%

Proposals to change transfer capacities of interconnectors are often misunderstood because they take a rather simplistic view of the benefits and costs. Upgrades are at first appealing given a higher spot price in one region when compared to another, with the expectation that the higher price will be reduced. However one must consider the price in the exporting region. As the price differential will not be maintained across an upgraded interconnector, the higher priced region will be depressed but the lower priced (exporting) region will increase. It is important that policy makers realise that the price in the exporting region after the upgrade will be set by generators higher up the supply curve and the importing region lower down the supply curve. The differences between the two previous regions' supply curves and the point on the new supply curve for the merged region will have to be greater than the cost of the interconnector upgrade itself.

Under these static assumptions the difference in supply costs in each region has to be significant. We cannot assume the interconnector will offset any investment in existing generation (as these costs are sunk). Such differences have not been evident in the NEM since inception across the major interconnections.

Under dynamic conditions increasing the transfer capacity is coupled with investment in generators within the exporting region to serve incremental demand in the importing region. The decision to improve the transfer capacity will be based on an assumption that it is economic to build new generation in the exporting region and invest in the interconnector, rather than solely invest in generators in the importing region. Under this circumstance the hurdle for the generator investment in the exporting region is the additional cost of the interconnector upgrade. The interconnector upgrade costs must be less than the investment cost in the different regions.

A way of easing the investment hurdle would be to assume persistent oversupply in one region. Under this assumption the exporting generators may be assumed to be sunk and therefore the interconnector upgrade only competes with the investment cost of an importing region's generator. Under this scenario the importing region's long run costs of investing in a generator would be compared with the exporting region's short-run costs (fuel) and the interconnector cost. The NGF considers even this favourable consideration will often fail the test given the high costs of transmission compared to generation units. It would also be imprudent to assume a persistent oversupply in one region, which would lead one to discount the potential benefits of any upgrade.

Considering the above, the NGF considers it unlikely major transmission upgrades will benefit consumers under either static or dynamic assumptions.

Market based interconnector arrangements

The NGF considers the "public contest method" and market-based methods to be more suited to simple, shared networks with few significant externalities and dedicated to few users. It may be suited also to shared connections into a broader system. The NGF's considers such approaches may well work in rail systems, such as the development of the coal rail network in Queensland and the Hunter Valley, where a few users can vote on proposed developments. Where the capital required is beyond the networking company then direct investment in infrastructure by users may also work, such as the Surat Basin rail system. By contrast the electricity network has over 20 million consumers (represented by their Regulators) and an array of suppliers (generators) of different types. A key problem with such approaches is competing objectives of users and instances where incremental costs are in excess of average costs of the system, pushing up costs for all users.

There has been debate in the Transmission Frameworks Review over suppliers' 'use' of the system and the value they place on access to it, which could possibly be used to provide a market-based signal for transmission. The NGF has not been supportive of such concepts which have failed to gain much support from respondents to the AEMC.

Summary

The bulk of network investment is spent by network businesses in an effort to satisfy jurisdictional planning and reliability standards. We note that there are a number of reviews and Rule changes underway which are examining the current framework for setting and reviewing investment plans.

As a general principle we would support any effort that improves the information available to the regulator to make robust and reasonable provision for efficient network investment and maintenance.

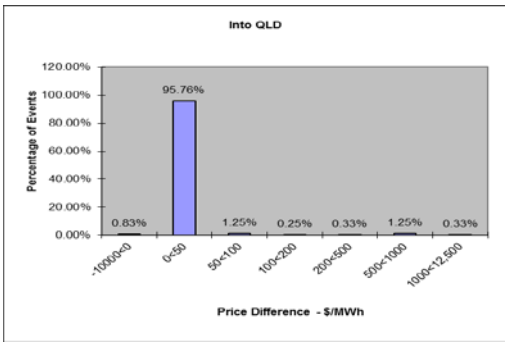
The NGF would be concerned if there was any special treatment for interconnectors over generation investment or intra-regional network investment. We consider that the Regulatory Investment Test for Transmission considers a comprehensive list of costs and benefits and provides adequate processes for consultation and participant input and scrutiny. TNSPs have strong commercial incentives to build interconnectors if the test can be satisfied. We are of the view that if a project cannot pass the legitimate economic appraisal requirements of the RIT-T then there is no other public policy reason for underwriting such investments.

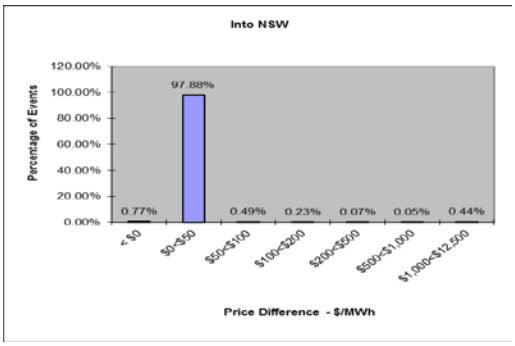
Yours sincerely

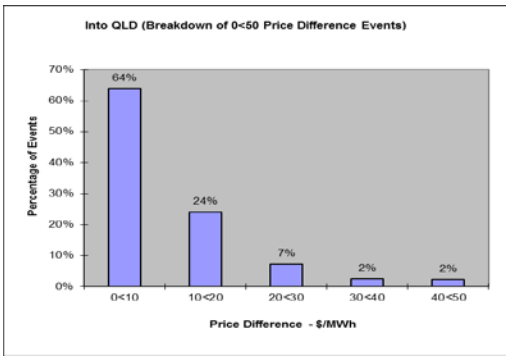
Tim Reardon
Executive Director

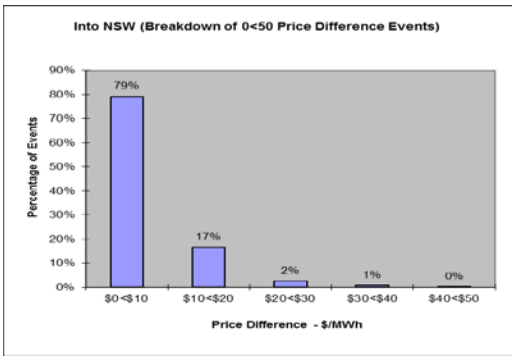
Attachment 1: NEM interconnectors, incidence of congestion, breakdown of congestion by level of price separation, 2010-11

QNI Congestion – 10/11

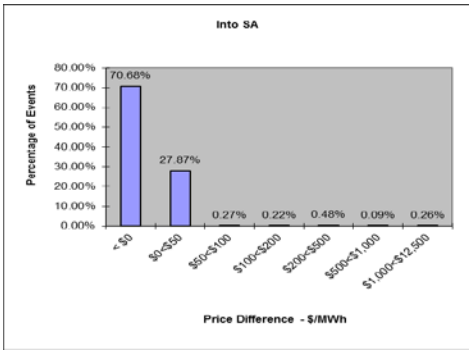


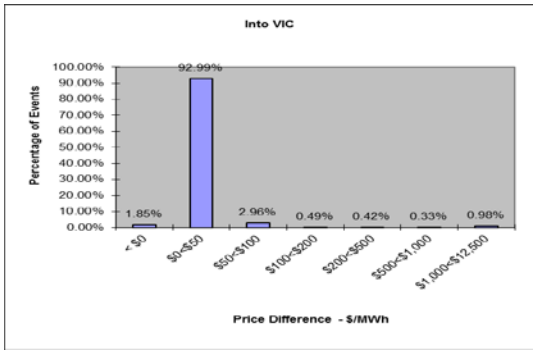


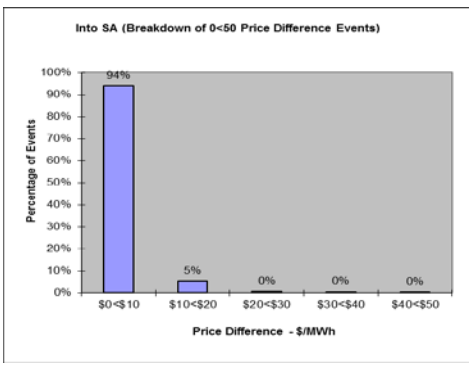


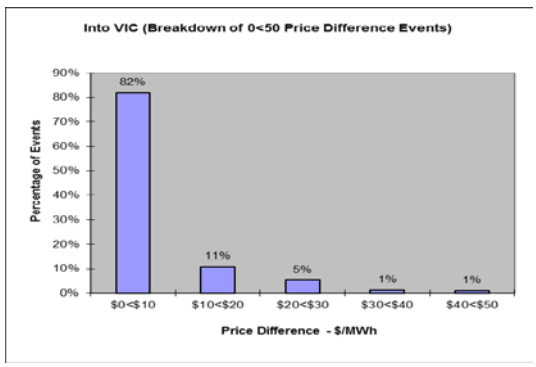


VIC-SA Congestion – 10/11

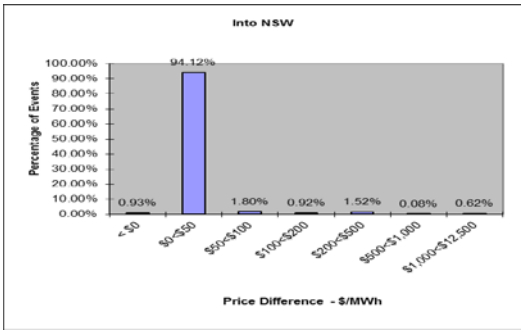


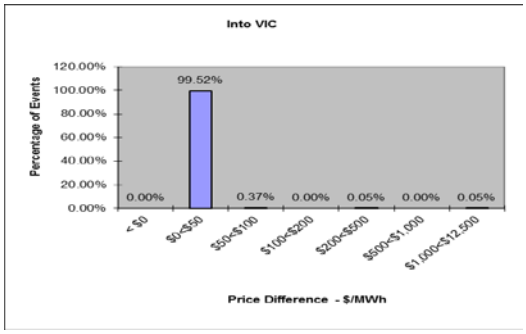


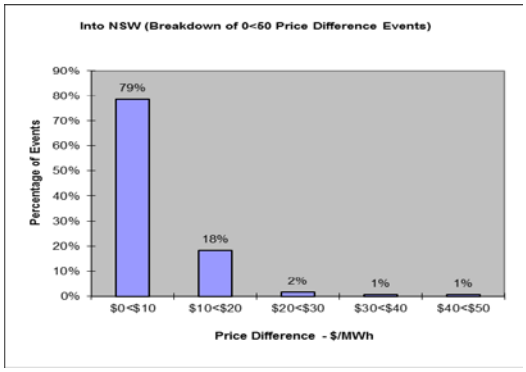


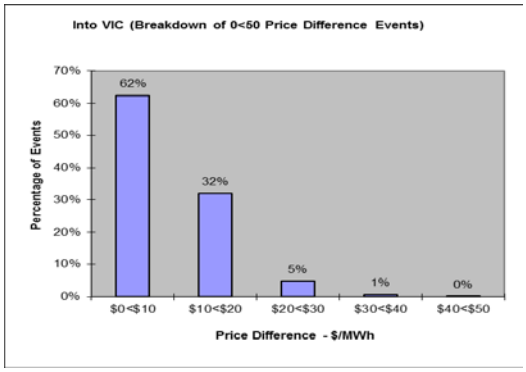


VIC-NSW Congestion – 10/11









BASS Congestion – 10/11