



2 February 2012

Mr John Pierce
Chairman
Australian Energy Market commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr Pierce

Transmission Frameworks - First Interim Report: (EPR 0019)

AGL Energy Ltd. (AGL) welcomes the opportunity to provide the following submission to the AEMC Transmission Frameworks - First Interim Report 2011 dated 17 November

As Australia's leading investor in renewable energy in Australia, AGL is well placed to comment on transmission policy. AGL operates across the supply chain and has investments in coal-fired, gas-fired, renewable and embedded electricity generation and electricity retailing. AGL is Australia's largest private owner, operator and developer of renewable generation in Australia and has invested well over \$2 billion in renewable energy and has much more in its portfolio of development opportunities. Within the next few years, AGL will own or operate approximately 1,420 MW of renewable energy generation assets.

The AEMC's Transmission Framework review is timely given projections identified in the Commonwealth Government's recently released *Draft Energy White Paper* that \$240 billion dollars of investment in the electricity and gas sectors may be required by 2030¹. This investment is attributed to growing demand, the replacement of aging infrastructure and assets and in response to the implementation of a price on carbon. Of this sum, \$24 billion alone could be required for investment in shared electricity transmission networks. Appropriately finalising transmission framework, as described in this submission, will provide greater clarity to future investors as to the costs and benefits of investment in both generation and network infrastructure and decrease the possibility of network congestion, thereby improving the efficiency of market outcomes.

AGL's proposed NEM Transmission Framework

In summary, AGL believes the following – internally consistent – transmission framework will best meet the Commission's stated objectives. Specifically, AGL's proposed framework is "*most likely to optimise investment and operational decisions across generation and transmission in a manner that minimises the overall long term costs to consumers, while facilitating continued security and reliability of supply*"².

Access and Congestion Management

- Implementation of the access arrangements as outlined in the attachment to the AGL submission to the Transmission Frameworks Review – Directions Paper titled "An improved generator access regime for the NEM". This is the same proposal further elaborated by

¹ *Draft Energy White Paper 2011 Strengthening the Foundations for Australia's Energy Future* p.xix. Available at: <http://www.ret.gov.au/energy/Documents/ewp/draft-ewp-2011/Draft-EWP.pdf>

² AEMC First Interim Report *Transmission Frameworks Review* (pg.i).



International Power GDF Suez in its Initial Submission to the AEMC Transmission Frameworks Review First Interim Report, 16 January 2012, (This is essentially a workable arrangement of Package 4 which is internally consistent with Package 2.) (An overview of this proposal is provided in Appendix 2),

- Implementation of Package 2 in its entirety – to address disorderly bidding,
- Inclusion of the uplift payment (as described in Package 5) to provide fully firm access, and
- Clarification of the Rules access provisions consistent with the above access arrangements.

Transmission Planning and Connection

- Implementation of a National Transmission Planner to carry out all transmission planning activities for each region in the NEM (transmission planning arrangements in South Australia reflect a working template).
- The National Transmission Planner should be separate from the Australian Energy Market Operator (AEMO) and should not be a party to – or an intermediary in – the Generator/Transmission Network Service Provider (TNSP) connection negotiations – apart from providing planning input to the TNSP.
- Improvements to the current connection arrangements to support competitive provision of transmission network access to generators. This would provide greater transparency and control to generators with the option of connection applicants selecting competitive provision of connection services through, for example, adoption of a build own transfer (BOT) model. Essentially, this is an extension of competitive investment in generation capacity to include competition in the provision of access for generators (at their discretion).

AGL does not support the adoption of generator TUOS charges for all generators as part of any amended transmission network framework as such charges when applied to incumbent generators do not drive economic efficiency, would transfer the risk of poor planning decisions to generators in the form of a unpredictable variable charge and as such represent an unnecessary regulatory intervention in the NEM, when competitive solutions are available.

It is understood that some generators, generally the state owned businesses in NSW and Qld., prefer an access regime where generators do not have access rights to the transmission system, incumbents do not pay TUOS and new entrants do not pay for augmentations to the shared network. AGL notes that the framework proposed above allows generators to choose access of this nature, the only constraint being that in so choosing the generator cannot degrade the access rights of others.

AGL has a strong preference for an internally consistent framework which as far as is practicable is based on competitive market approach to providing generator access. In AGL's view, the transmission framework package as described best meets this objective as well as the Commission's objective identified above.

If you have any questions in relation to this submission please contact Roger Oakley on 86336217.

Yours sincerely

A handwritten signature in black ink, appearing to be 'AC', written in a cursive style.

Alex Cruickshank
Head of Energy Regulation

AEMC Transmission Framework Review

Submission in response to the First Interim Report



AGL provides the following comments on the proposed packages contained in the AEMC Interim Report.

Package 1 - An “open access” regime

The Commission claims that the NEM currently operates under an “open access” regime where generators have:

- a right to connect to the network;
- but no “firm right” of access across the network.

Importantly, the terms “open access” and “firm access” are not used in the National Electricity Law or National Electricity Rules and the Commission has at no stage provided evidence in support of this definition. There are examples of other access regimes described as “open access” which do provide a “firm right” of access to the infrastructure, one example of an access regime of this type is included as Appendix 1. As for this example the rights and obligations of applicants to an “open access” regime are contained in the documents describing the terms and conditions of access. In the case of the NEM the access arrangements are described in the Rules.

However on the basis of this definition, the Commission then notes that the Rules as written, primarily cl. 5.4A of the National Electricity Rules, cannot work in practice because they are inconsistent with the above definition. In fact the opposite is true; the definition provided by the Commission is inconsistent with the intent and drafting of the Rules.

If the meaning of “open access” is defined based on the Rules provisions the NEM is more appropriately defined as an “open access” regime where generators have:

- non discriminatory access to connect to the network;
- “protected access” with respect to new connections at specified system conditions, for a fee, but;
- “non firm” access for other causes of congestion.

The Commission notes in the Interim Report that some generators disagree with its conclusion that the NEM operates under an “open access” regime and are of the view that cl. 5.4A other Rules provides “firm access” for generators. AGL considers that this statement is a misinterpretation of the generators position. Some generators notably the privately owned businesses consider that cl. 5.4A provides “protected access” with respect to new connections but “non firm” access for other causes of congestion such as network maintenance or network outage.

Substantial evidence exists to support this definition, including:

- the Victorian Use of System Agreements (UOSA);
- the Australian Competition and Consumer Commission (ACCC) NEM Access Code Decision (16 December 1998);
- Chapter 5 of the National Electricity Rules; and
- Legal and economic modelling.

Except for the Victorian Use of System Agreements this information, some of which relates to the period when the market commenced in Victoria and the Rules (then the Code) were originally developed and authorised by the ACCC was submitted as part of the Victorian generators submission³ to the AEMC Review of Energy Market Frameworks in light of Climate Change Policies. The submission is available on the Commissions website at the link below⁴.

³ International Power, Truenergy, AGL and LYMMCo submission to the AEMC Review of Energy Market Frameworks in light of Climate Change Policies; dated 23 February 2009 – specifically Appendix 2 & 4 and Attachments 1 and 2.

⁴ <http://www.aemc.gov.au/Media/docs/AGL%20Energy%20TRUenergy%20International%20Power%20and%20LYMMCO-434ecf1f-7877-4ee1-88c7-99829126c329-0.pdf>



Victorian Use of System Agreements

For AGL the relevant documents are the UOSA between Victorian Power Exchange (VPX) and Generation Victoria (dated October 1994) and the UOSA between VPX and Generation Victoria, Attachments 1, 2, 4 and 5. These documents clearly provide for generator access to the shared network.

Furthermore, the Victorian UOSA are linked to and consistent with the principles in cl. 5.4A and the relevant TNSP (now AEMO) is required to ensure that access is provided in accordance with the terms and conditions contained in the UOSA. In particular, it must use reasonable endeavours to ensure that the shared network capacity as stated in the UOSA is maintained for the duration of the agreement.

The Victorian assets subsequently acquired by AGL were sold by the Government with these agreements in place. AGL considers that the purchasers at the time included the transmission network access provided under the UOSAs' in the price paid.

Implementation of an access regime described in Packages 1, 3 and 5 would require an unwinding of existing connection agreements and the likely payment of compensation to those adversely impacted. Conversely if an incumbent generator does not have a UOSA with protected access to the shared network, because network costs are sunk costs, allocating protected access to the shared network is not inconsistent with economic efficiency provided that allocation does not materially or adversely affect the levels of service and quality of supply to other network users. This latter approach is consistent with the access and congestion management framework proposed by AGL.

Subject to the agreements confidentiality provisions AGL can provide further relevant details of the Victorian UOSA's held by AGL.

The ACCC NEM Access Code Decision (16 December 1998)

A summary of the NEM access arrangements as discussed in the NEM access code Decision was included in to the Victorian generators submission⁵ - Appendix 2.

The ACCC noted that the Code aims to create a workable, non-discriminatory right of access to the natural monopoly network and that the major principle of the connection requirement provisions is that a party be provided physical access to a transmission or distribution network on a fair and reasonable basis. Provided that the connection arrangements do not materially or adversely affect the levels of service and quality of supply to other network users.

The clear intention is to protect incumbent generators access from being degraded by new entrant generators. AGL considers further that this effectively created a "protected access" regime for all generators.

National Electricity Rules Chapter 5.

Importantly cl. 5.4A of the National Electricity Rules is consistent with the Victorian generators description of the NEM access arrangements.

Clause 5.4A of the Rules deals exclusively with providing generators with "protected access" in the planning domain. Although this clause addresses congestion that could arise as a consequence of a new connection it does not address congestion that is caused by planned outages, transmission failures or due to the operation of the system beyond the normal operating envelope. Under the latter, both generators and customers, have "non firm" access.

The access provisions in Chapter 5 are identical for generators and large customers. In making a connection large customers pay for and are provided with "protected access" at a specified reliability standard. The access provisions in the Rules are identical for both generators and customers a consistent interpretation requires that generators are also provided with "protected access".

⁵ International Power, Truenergy, AGL and LYMMCo submission to the AEMC Review of Energy Market Frameworks in light of Climate Change Policies; dated 23 February 2009 – Appendix 2.

Supporting economic and legal advice

In addition to the points outlined above the following economic and legal advice is also provided in support of AGL's position.

Legal advice: Norton Gledhill

The Norton Gledhill legal advice⁶, prepared on behalf of all Victorian Generators holding a connection agreement with AEMO, provides a comprehensive overview of the NEM access arrangements which is consistent with the Victorian Use of System agreements and the ACCC NEM Access Code decision.

This advice states that the National Electricity Rules set minimum performance standards regarding the level and standard of power transfer capability that a Network Service Provider (NSP) must provide to generators – but only to the extent that the system is in a satisfactory operating state with all facilities and equipment in service. Further, the advice states that the terms on which connection is to be granted are to be set out in a commercial agreement. The Rules also contemplate that the terms of the connection agreement may provide for a NSP to compensate a generator in the event that the NSP fails to meet the minimum standard of performance set by the Rules.

Economic Advice: Intelligent Energy Systems modelling

The Intelligent Energy Systems (IES) report *Modelling of Transmission Pricing and Congestion Management Regime* was undertaken to demonstrate the impact on dynamic efficiency of transmission access arrangements which included stronger locational transmission pricing signals i.e. new generators funding the network assets required to support their output and more granular pool pricing for generators⁷.

The scenario modelled compares an access regime as described by the AEMC in Package 1, with same access regime proposed in this submission, where generators have:

- non discriminatory access to connect to the network;
- "protected access" with respect to new connections at specified system conditions, for a fee; but
- "non firm" access for other causes of congestion.

Under this approach generators would also face a local marginal price in the event of congestion.

The report estimates, for one region, the extent of dynamic inefficiencies arising under the current interpretation of the Rules because of the sub-optimal location and timing of generation investment. Inefficiencies arise because generators may, but do not need to, consider transmission costs in making an investment decision. The modelling results show that if new generators invest in transmission network infrastructure, so as not to materially or adversely affect the levels of service and quality of supply to other network users, congestion costs are reduced and new generation projects are made in locations optimal to the industry as a whole i.e. including minimising transmission investment.

Specifically, the IES work shows that efficient investment will result where new generation investment decisions:

- take into account all fixed costs – including transmission – associated with the investment; and
- are informed by a location specific forecast price duration curve to assist in determining the nature and timing of investment.

⁶ Submission to the AEMC CMR Draft Report dated 22 December 2006, by a group of generators and subsequently as part of the Victorian generators Feb 09 submission - Attachment 1.

⁷ This report was first submitted to the AEMC CMR Draft Report dated 22 December 2006, by a group of generators and subsequently as part of the Victorian generators Feb 09 submission - Appendix 4 and Attachment 4. The IES report is available on the Commissions website.

Conclusion

In light of the issues identified above, AGL does not support the implementation of Package 1.

AGL is firmly of the view that there is no basis for the implementation of an access regime as described in Package 1 where generators have:

- a right to connect to the network; but
- no “firm right” of access across the network.

The Commission itself notes there are significant deficiencies with the “open access” arrangements as described in Package 1. Including;

- there are no automatic triggers of network augmentations when a generator connects;
- there are no obligations on NSPs' to connect a generator;
- there are no generator reliability standards (reliability standards are directed at loads which may trigger transmission investment in time and if congestion increases). This means transmission expansions would be reactive; and
- it is difficult to attribute costs to generators or congestion between them⁸.

AGL considers that its proposed transmission framework, as outlined in this submission, overcomes these issues.

Furthermore, Victorian generators incumbent at market start have UOSA's with protected access and there is no basis for charging these generators for access that has effectively already been paid for. Implementation of an access regime described in Package 1 would also require an unwinding of existing connection agreements and the likely payment of compensation to those adversely impacted.

Package 2

AGL supports the implementation of Package 2 as outlined. AGL considers that this approach will improve current arrangements and reduce the inefficiencies that arise with disorderly bidding which arises because of inefficient price signals when congestion occurs.

Package 3

AGL does not support Package 3 as it suggests the implementation of a regulated approach to addressing transmission access issues, when competitive market solutions can be implemented to achieve a better outcome.

Furthermore, the adoption of generator TUOS charges, as part of any amended transmission network framework is not supported, as the inclusion of such charges:

- are inconsistent with the intention of the NEM access arrangements;
- would significantly disadvantage the owners of generators who have access rights directly linked to the original sale of the assets;
- when applied to incumbent generators, do not promote economic efficiency;
- require a regulatory prediction of likely future generation location decisions and hence likely future congestion to develop transmission costs which will vary with time;
- they transfer the risk of NSP's failure to adequately build, operate and maintain networks to generators; and
- are inconsistent with the NEO – signalling a variable transmission charge to sunk assets increases investment risks.

Package 4

AGL understands that the Commission has proposed this package as a means of providing firmer generator access consistent with the intent of cl. 5.4(A).

The implementation of Package 4 will not have the effect of providing the protected access intended by cl. 5.4(A) and it is therefore not supported. This is because the source of funds used

⁸ AEMC First Interim Report *Transmission Frameworks Review* (page 61).

to address disorderly bidding in Package 2 has been used to provide compensation payments in the event that a generator chooses partial access. As a result, generators will have conflicting bidding objectives and the outcomes with respect to access and disorderly bidding would be highly uncertain.

- Implementation of the access arrangements as outlined This is the same proposal further elaborated by International Power GDF Suez in its Initial Submission to the AEMC Transmission Frameworks Review First Interim Report, 16 January 2012⁹, 2),

As an alternative to the Commissions' proposal AGL supports the implementation of the access framework as outlined both in;

- the attachment to the AGL submission to the Transmission Frameworks Review – Directions Paper titled “An improved generator access regime for the NEM”, (the features of this arrangement are summarised in Appendix 2 to this submission), and
- the International Power GDF Suez in its “*Initial Submission to the AEMC Transmission Frameworks Review First Interim Report*,” 16 January 2012. In the International Power GDF Suez proposal identifies a separate source of funds has been provided to enforce the access provisions and manage congestion where generators have the option of choosing partial access.

This proposal is essentially a workable arrangement of Package 4 which is internally consistent with Package 2. (An overview of this proposal is provided in Appendix2). The adoption of this approach would also allow the implementation of Package 2 to address disorderly bidding.

Package 5

AGL considers that Package 5 proposes a major redesign of the NEM. There are some advantages to generators with this proposal as its intent is to provide financially firm access for generators in the event of any form of congestion occurring, including in the event of transmission outages for maintenance and transmission network failures within any timeframe. This feature is worthy of further consideration however, there are also some serious deficiencies with the proposal including:

- it does not provide firm access to generators;
- a single Regional Reference Node for the whole NEM eliminates the regional price differences as a generator locational signal and, as a consequence, it will result in a single price duration curve for the NEM. This could distort the timing, and type of future generator investments;
- replacement of a regional pool price difference with a regulatory determined generator transmission charge as a signal for generator location decisions, which leads to the shortfalls – as identified – with Package 3;
- defacto centralised planning of generation investment decisions is likely to result in the overbuilding of transmission network assets which will reduce the volatility and level of pool prices; and
- is likely to require the implementation of capacity payments to generators to ensure participant viability and system reliability.

It is not clear to AGL whether or not Package 5 could be designed to overcome the disadvantages or deficiencies identified. Furthermore, there would likely be a significant delay (potentially many years) before such an approach could be properly designed and implemented. If Package 5 is to be given serious consideration the proposal contained in this submission should be implemented first to support investments planned for and being made in the short to medium term.

Accordingly, AGL does not support the implementation of Package 5.

Economic regulation of connection services

The Commission has sought participants views as to what connection related services should be subject to economic regulation.

⁹ Available at: <http://www.aemc.gov.au/Media/docs/IPRA%20-%20Preliminary%20submission-5a29ac13-9e7d-428a-9f21-969c77159433-0.pdf>

The Commission has described three alternative proposals for the economic regulation of transmission connection services as “negotiated services” with an increasing degree of regulatory intervention. In our view, increasing regulation is likely to increase the delay in establishing connection services.

It is not clear that any of the proposals will address the imbalance in bargaining power in the connection process and increase the timeliness of the provision of connection services due to the increasing level of regulatory overheads. However the three alternatives could be included in the Rules and an option selected, solely at the generator’s discretion, at the time a connection application is made.

The energy market is a dynamic market and a regulated approach to access is unlikely to provide a timely response. AGL therefore supports revisions to the Rules to facilitate competitive provision of connection services to address the imbalance in bargaining power of the TNSPs’. This should be the prime focus of the changes to the economic regulation of transmission services.

Extending the contestability of services

Improvements can be made to the current arrangements to support competitive provision of transmission access by providing greater transparency and control to generators with the option of a Build Own Operate (BOO) where generators are the builder owner and operator of their connection and extension assets or a Build Own Transfer (BOT) arrangement where after construction the assets are transferred to the NSP to operate and maintain. This is essentially an expansion of the competitive market into the provision of access for generators.

A solution that allows generators to establish timely connection and access through a competitive market approach is preferred to a regulated approach. This should include the implementation of tradeable access rights.

From a technical viewpoint, generators, the transmission system, connected load and the associated control systems form a highly integrated framework. Historically, vertically integrated utilities – for reasons of efficiency and technical expertise – established separate generation and transmission functions with some form of overall coordination. Because of this, and because transmission networks are a natural monopoly, the connection point between generators and the transmission network service provider is (generally) at the generator transformer output terminals. The NER contains extensive technical standards which apply at this point to ensure that the integrated generation transmission and management systems provide a secure and reliable supply.

AGL considers that it is difficult to provide the services required to connect a generator to the grid on a contestable basis primarily because TNSPs’ are deemed to be natural monopolies, and the NEL, the NER and other jurisdictional laws, support regulated provision of transmission network services. The current arrangements therefore create barriers to competitive provision of transmission.

The current access arrangements may make sense in the case of load, where transmission expansion is a consequence of a large number of small load increments, driven by reliability standards. However generators (and some increases in load) are large increments of system expansion often requiring, or triggering, transmission expansions. In these cases, there is no technical reason why the connection point and the appropriate technical standards cannot be established to include the extension, connection and shared network augmentations. (Refer AEMC TFR First interim report Box 12.2 page 158 for the definition of these terms) This change would facilitate competitive provision of generator connection services and would be an advantage to new generators because it would put the responsibility for project management of the construction of the generation and transmission assets under their control.

As the Commission notes generators are primarily interested in the timely construction of connection assets at least cost. AGL acknowledges that there may be significant legal difficulties, network planning constraints and other barriers to the provision of connection services by generators. However each of these constraints should be identified and their validity examined. If these constraints remain AGL considers that at least it is possible to separate the construction of the assets from the operation and maintenance aspects of the connection service by the establishment of appropriate performance standards for the transmission assets. These standards could be developed by the central planner or the TNSP and made available to connecting generators to address the current information asymmetries. An arrangement of this type is no different to the way in which power stations are constructed by contract and subsequently operated and maintained.

Features of a contestable framework

An extension service is contestable if in the connection applicants view the connection applicant can build operate and maintain the extension themselves or contract to a third party for the provision of extension services. Any framework which supports provision of connection services on a contestable basis should include the following features;

- third parties could include the “incumbent” TNSP any other registered TNSP or any other transmission service provider.
- the extension should be considered as an extension of the power station assets and treated as such. In effect this means that the power station connection point is at the shared network end of the extension.
- there should be no requirement to be registered as a TNSP or any state based licensing requirements to operate the extension as part of the transmission network.
- an extension constructed by this approach should not form part of the transmission system, it is owned by the generator who has sole access rights to the capacity whether or not it is in excess of their current needs.
- The connection applicant may sell access to others in under their own terms and conditions.

Economies of scale in connection services

Economies of scale in connection services could be achieved through construction either by the connection applicant or the TNSP.

If in the connection applicants view scaled connection services would be economically viable they could elect to treat the extension services as being contestable under a BOO or a BOT model or could have the incumbent TNSP provide the service as a *negotiated service*, in either case;

- the connection applicant nominates the size of augmentations and other connection services, and decides if they are to be treated as *Negotiated* or *Non Regulated Services*.
- the assets would form not part of the shared network,
- the connection applicant would own the access rights which would be tradeable.

If in the view of the TNSP the connection should be established at a size greater than that required by the connection applicant (it may be that this view should be consistent with the NTNDP and the TNSP’s forward plan) then the extension service must be treated as a *negotiated service*.

- the relevant *negotiated service* provisions would apply,
- the assets would form part of the shared network,
- the connection applicant would pay the stand alone cost of the assets,
- consumers would pay for the capacity in excess of that required by the first connection applicant,
- each subsequent connection applicant would receive firm access to the assets at the stand alone cost,
- consumers over collect as a reward for the risk taken in building assets for larger connection assets.

Transmission Network Connection Framework

AGL agrees with the AEMC that the scope and extent of connection services and generators rights under the current framework should be clarified with respect to the following issues.

Increased clarity with respect to generators access rights

The Commission’s discussion in relation to generator’s access rights (pg. 201) identifies inconsistencies in the Rules in relation to *connection assets*, the *national grid*, the *transmission network* and other assets used for connection and extension. However, the discussion does not include consideration of the important principle for establishing a connection agreement which is that existing levels of service or power transfer capability be maintained. This principle is

embodied in clauses 5.3.5(d)¹⁰ and 5.4A(e)¹¹. Cl. 5.3.5(d) has as an objective “to maintain levels of service and quality of supply to existing Registered Participants”. Furthermore, cl. 5.4A(e), in summary, states that in determining the potential augmentations or extensions required to be undertaken on all affected networks the TNSP is to take into account the amount of power transfer capability provided to other Registered Participants under network user access or arrangements.

Given this, there is a clear intention in the Rules that connected participants access, i.e. the level of service or power transfer capability, is to be protected. This principle makes it clear that subsequent users have no right of access to any assets if it degrades existing users’ level of service or power transfer capability.

Application of this principle will assist in clarifying the uncertainty in the Rules as to the rights of existing users and prospective new entrants with regards to extensions (and other assets used for connection more generally).

Network Service Providers Regulatory Obligations

AGL considers that, because of the current access arrangements, monopoly network service providers are able to avoid their regulatory obligations and weaken the bargaining position of the applicant by deeming connection services in particular, extensions, to be contestable and therefore non-regulated.

To address this issue AGL considers that the decision as to whether connection services are contestable – or not – should be made by the generator or the actual connection applicant. AGL proposes that the non-regulated services would subsequently be procured by the connection applicant and not the TNSP. This approach would remove the possibility of the network service provider deeming connection services to be contestable.

Contestable provision of services or assets

Contestability for the provision of services or assets should be included in the regulated process wherever possible. In AGLs’ view, providing connection applicants with more control through contestable provision of service and choice of regulatory process to be applied to the connection process will be more effective in reducing the imbalance in power than increased levels of regulation.

In summary, AGL considers that connection services and the extent of regulation should be framed as described in the following table.

¹⁰ 5.3.5 (d) So as to maintain levels of service and quality of supply to existing Registered Participants in accordance with the Rules, the Network Service Provider in preparing the offer to connect must consult with AEMO and other Registered Participants with whom it has connection agreements, if the Network Service Provider believes in its reasonable opinion, that compliance with the terms and conditions of those connection agreements will be affected, in order to assess the application to connect and determine:

- (1) the technical requirements for the equipment to be connected;
- (2) the extent and cost of augmentations and changes to all affected networks;
- (3) any consequent change in network service charges; and
- (4) any possible material effect of this new connection on the network power transfer capability including that of other networks.

¹¹ 5.4A (e) The Transmission Network Service Provider must use reasonable endeavours to provide the transmission network user access arrangements being sought by the Connection Applicant subject to those arrangements being consistent with good electricity industry practice considering:

- (1) the connection assets to be provided by the Transmission Network Service Provider or otherwise at the connection point; and
- (2) the potential augmentations or extensions required to be undertaken on all affected transmission networks or distribution networks to provide that level of power transfer capability over the period of the connection agreement taking into account the amount of power transfer capability provided to other Registered Participants under transmission network user access or distribution network user access arrangements in respect of all affected transmission networks and distribution networks

Type of Economic Regulation	Shared Network Services Augmentations to the shared network (Includes construction operation & maintenance)	Other Connection Services Including connection and extension assets (Includes construction operation & maintenance)
<i>Prescribed Services</i> (regulated by the AER)	NA	NA
<i>Negotiated Services</i> (Negotiated under the Rules)	TNSP must supply, <u>unless the connection applicant decides</u> that the service is to be treated as: (a) a negotiated service but with contestable provision of assets, or (b) as a non regulated service.	TNSP must supply <u>unless the connection applicant decides</u> that the service is to be treated as a non regulated service.
<i>Non Regulated Services</i> (Commercially negotiated outside the Rules)	Service provision by a third party selected by the connection applicant.	Service provision by a third party selected by the connection applicant.

The above table applies to shared network services and connection extension assets paid for by the connection applicant. If assets are constructed in excess of those required by the connection applicant they should be funded by the relevant TNSP, or by customers, as negotiated services.

Appendix 1 Other Open Access regimes

The Commission claims that currently the NEM operates under an “open access” regime where generators have:

- a right to connect to the network;
- but no “firm right” of access across the network.

The terms “open access” and “firm access” are not defined in the NEL or the Rules and the Commission has at no stage in this review provided analysis or evidence to support this definition. These terms are of little use in defining a generators access rights as they do not appear to have a generally accepted meaning.

While it may be true that there are other access regimes where the above definition or meaning applies it is also true there are open access regimes with alternative attributes. For example, at Port Kembla NSW, the Port Kembla Terminal access arrangements are described on the Australian Amalgamated Terminals (AAT) website¹² as an “open access” regime:

“The facilities are operated under an open-access regime. Any stevedore or Pre Delivery Inspection operator may apply to have access to the site to service their customers. The access is on a non-discriminatory basis so that all parties are provided services to the same level.”

The Port Kembla Terminal access arrangements are described in detail in the “*Port Parameters and Berthing Priority Code*”. This document outlines the conditions under which access will be granted and the basis for determining the priority of access. Tariffs are published on the AAT website and at the site and are available to all parties seeking access. The stevedore licence, dispute resolution procedures are also detailed in order to enable parties to resolve any issues that may arise. The Code also describes the key parameters for establishing bookings or access, berthing priority and scheduling. An overriding principle in establishing these parameters and managing changes in scheduling is stated as:

“The BPC scheduling may be negotiable between parties who require changes in scheduling - the only proviso being that it does not impact on a third/or other subsequent party’s vessel’s bookings.”

For the Port Kembla Facility the “open access” arrangements as described in the relevant documents are providing a defined level of access on the basis that does not impact on a third/or other party’s bookings or access arrangements. The main point being that the term “open access” by its application does not necessarily imply that applicants are not provided with a defined level of access.

¹² http://www.aat.auz.biz/locations/port_kembla

Appendix 2 Congestion management - A generator access regime (based on 5.4A)



As an alternative to package 4, AGL supports the implementation of the generator access arrangements as outlined in;

- International Power GDF Suez in its *Initial Submission to the AEMC Transmission Frameworks Review First Interim Report*, 16 January 2012,
- the attachment to the AGL submission to the Transmission Frameworks Review – Directions Paper titled *An improved generator access regime for the NEM*¹³.

Both documents were prepared by Mr Ken Secomb and the International Power submission is a further refinement of the AGL submission.

Package 4 is not supported because the source of funds used to provide compensation payments is the same source used in Package 2 to address disorderly bidding. This means that the outcomes in terms of access and disorderly bidding in this proposal are uncertain as Generators will have conflicting bidding objectives.

In the proposal prepared by Ken Secomb an additional source of funds is provided to fund the compensation payments to that proposed in Package 4 and the compensation payments are treated as an incentive in the form of a penalty to ensure generators with partial access comply with the access provisions. The adoption of this amendment allows Package 2 and 4 to be applied together in an internally consistent manner to efficiently manage disorderly bidding and contain supply induced congestion to an efficient level.

It is proposed that generators should be charged for generation access in a way that supports efficient generator locational decisions, meaning that transmission costs are given their appropriate weight alongside the various other location-specific costs that the generation investor faces at the time they are making investment decisions. The proposal therefore supports overall cost minimisation of the assets required from fuel source to the regional reference node. AGL considers that this approach will best support the achievement of the NEO.

The proposal also includes a provision for partial access by allowing the generator to choose (and if necessary pay for) the level of access that suits their business model. A complete explanation of this approach is contained in the attachment to the AGL submission. However, the following is a summary of the main attributes.

Define and maintain a base level of access

Includes a process by which a “base level” of access can be established under standard network planning conditions, to allow an enforceable obligation associated with a defined level of access in a connection agreement. Under this proposal the agreement of a level of access in a connection agreement would oblige the TNSP to continue to plan their network so as to provide that level of access to the shared network, but only under the defined planning conditions.

The agreement of a TNSP to provide a base level of access to a generator must be contingent on the transmission network having the capability to provide that new access without compromising any access that has been previously agreed. This increases revenue certainty for investors and reduces investment risk, and if the agreement of access at a particular location needs the network to be augmented, then there will be a cost to the generator associated with this augmentation.

Provides generators with a choice in negotiating access

This proposal allows the base level of access and cost to be chosen by the generator when making a decision to invest. This approach will allow:

- the location-specific costs due to transmission to be given their due weight alongside all other location specific costs faced by the generator; and

¹³ <http://www.aemc.gov.au/Media/docs/AGL-198b077b-a433-4017-9094-884e4068482b-0.pdf>

- a reasonable basis for estimating the risks faces through occasional restrictions on access – based on the known network configuration, and the established statistics on outages of network elements.

Because the base level of access is established under a defined set of network conditions the generator will be exposed to the residual risk of congestion due to transmission outages and where network conditions vary from the conditions used to establish the base level of access. This risk is not desirable and must result in the generator seeking a risk premium at a cost ultimately to customers. One component or feature of the proposed Package 5¹⁴, to protect generators from this risk via an uplift charge on consumers, could be included with this proposal to provide generators with fully firm access. To date no way of relieving generators of this risk has been seen as being practicable within the current market arrangements.

The base level of access may be partial access. A generator with partial access:

- In the absence of relevant* network congestion, may participate in the NEM in any way consistent with the NER; and
- In the presence of relevant* network congestion, must limit the availability offered to the market to a level not exceeding the partial access level,

If it fails to comply in limiting the availability it offers when required, then it must pay compensation to the TNSP equal to the additional revenue obtained through its failure to comply.

Compensation arrangements

In the event that a generator chooses partial access the compensation regime applies as an incentive to ensure compliance with the connection agreement, thereby making the actual calculation and payment of compensation unnecessary. This requirement to compensate is therefore not expected to apply frequently and in the case of compliance with obligations no compensation is payable.

This means in calculating the compensation the counterfactual does not consider that the generator with the compliance obligation may have been able to satisfy it by reducing availability by a lesser amount so as to just avoid congestion occurring. And the compensation is calculated based on the revenue received without adjustment for short run marginal costs. The design choice is to not allow such finessing in the counterfactual, simplifying the calculation thus encouraging the generator to comply rather than pay compensation.

A notable and deliberate feature of this compensation regime is that there is no involvement by the market operator and the market arrangements continue to treat all market participants on a uniform basis. The obligations introduced by this regime would lie solely in the bilateral agreement between the generator and the Network Service Provider and consequently would not interfere with the settlement process.

Determination and allocation of a location specific standalone costs

The allocation of the (standalone) costs of access must be signalled to the participant at the time the decision is being made, be specific to the location chosen, reflective of the stand alone cost for that participant and not subject to material change thereafter. In the context of the NEM design which seeks to maximise the commercial freedom of market participants, the overall cost of generation and transmission will be minimised only if the:

- transmission costs of a generator locational decision are only signalled to the participant making that locational decision;
- cost allocation should be specific to a selected location at the time of connection, and not averaged over time or space. The transmission costs associated with introducing a new generator are not uniform over any significant geographical scale, but rather are specific to a particular location in the network, and in some cases may differ significantly between different voltage levels at a given location;
- cost allocation should be known at the time that a locational decision is made, and should not be subject to material change thereafter; and
- any decision by others to implement a scale efficient design should not affect the cost allocation to the generator seeking access.

¹⁴ It would appear that Package 5 does address this by transferring this risk of transmission failure to consumers but Package 5 in totality has other undesirable consequences as noted in this submission.

Appendix 3 Deep Connection Charges

AGL supports deep connection charges which provide a level of “protected access” as an efficient means of providing locational signals to new generators. Deep connection charging also appropriately transfers the risk of TNSPs’ failing to expand the network to meet specified criteria from generators to the TNSPs’.

In Appendix D of the Interim Report the Commission has evaluated deep connection charges against a set of criteria. The Commission has identified a number of issues with respect to the implementation of deep connection charges, which would also arise with respect to other forms of access charges however the analysis does not include a comparison with other forms of access charging.

Further the analysis appears to have been undertaken based on a framework where:

- deep connection charging does not provide generators with a level of “protected access”; and
- the first generator connecting pays the total cost of all assets even in the case where the transmission has been built in a larger increment to obtain economies of scale.

Deep connection charging has been assessed as not meeting the criteria that charging must be “efficient”, “cost reflective”, “effective” and “competitively neutral” not because of any deficiency in deep connection charges but because of the above assumptions.

The deficiencies identified by the Commission in the evaluation of deep connection charges are discussed below.

Cost allocation

As the Commission notes it may be efficient to build transmission in larger increments than the capacity of the initial generator however it is the assumption that the first generator connecting at that point pays the full cost of the deep connection charge, thereby creating a first mover disadvantage.

The issue of economies of scale and who should fund connection assets that are larger than required by the initial applicant will arise in any form of transmission charging.

Access charging arrangements can be established to ensure where neither economies of scale or first mover disadvantage prevent deep connection charging. For example the decision to obtain economies of scale could be made by:

- the new entrant who would pay for and own the access rights to the full capacity and charge subsequent users for access; or
- by the TNSP who would build assets at a scaled level, funded by customers and charge all connecting generators a stand alone deep connection charge, allowing a return to customers when the capacity is fully utilised.

Further, whichever party makes the decision as to an “efficient” level of transmission investment should carry the risk and reward.

Policies in relation to access charges are being developed by AEMO, for Victoria, which cover the charging arrangements where connection assets have been built to achieve economies of scale. The principles are being developed to ensure the connection applicants pay in proportion to their use of the assets and there are no first mover disadvantages.

Stability of Charges

The discussion in this section relates to the capability of a TNSP to accurately calculate a fixed charge to apply in the future. The advantage of fixed deep connection charges (determined up front, not subject to change) is that they provide certainty for generators and their financiers.

However as the Commission notes, this means that fixed deep connection charges transfer the risk that this charge may be insufficient to cover the cost in the future to the TNSP. This is the appropriate allocation of the risk as planning and expanding the network and calculating the appropriate cost should be a prime area of TNSP expertise. We do not see that the calculation of this charge is any more difficult than the calculation of generators charges as described in section C “Options for generator TUOS charging”, or as described in chapters 12, 13 and 14.



In general greater transparency in the calculation of access charges is required to address the risk of excessive charges.

Potential discrimination between incumbents and new entrant generators

In this section the Commission appears to be raising objections to deep connection charging based on equity and wealth transfer considerations and a misunderstanding on how deep connection charging associated with a compensation regime would work.

The Commission claims that because incumbents did not pay for transmission access, charging new entrants deep connection charges will affect (decrease) allocative efficiency. The issue being addressed by deep connection charges is not allocative efficiency between new entrants and incumbents but dynamic efficiency considerations between prospective new entrants. As the Commission has noted, the total cost of future transmission and generation investment will be minimised if new generation investors minimise the total delivered cost of energy from fuel source to consumers. This effectively means that it is the relativity between potential new entrant total investment costs (including deep connection charges) that drives dynamic efficiency.

The Commission claims that a deep connection regime may reduce the level of competition in the generation sector because:

- incumbents did not pay transmission charges; and
- under a deep connection regime pool prices will increase due to new entrants paying for transmission capacity which will result in wealth transfers to incumbent generators.

The first assumption is not correct and in any case is not relevant to driving future economic efficiency. In the case of Victorian generators, access to the shared network was allocated to each generator in their UOSA's prior to privatisation and the assets sold on that basis. Purchasers would have taken into account the value of transmission access at the time of making their offers. In other states corporatisation and allocation of debt would have been determined on the basis of the total value of the power station and the value of associated transmission access.