Australian Energy Market Commission
Level 5, 201 Elizabeth Street
Sydney NSW, 2000
Australia
By online submission

10 October 2012

Dear AEMC Commissioners,

Re: EPR0019 - Transmission Frameworks Review Second Interim Report

Thank you for the opportunity to provide comment on this important review into transmission arrangements in the NEM.

International Power entered the Australian energy industry in 1996 and has grown to become one of the country's largest private energy generators, with assets in Victoria, South Australia and Western Australia. Now a wholly-owned subsidiary of GDF SUEZ, International Power is a leading independent electricity generating company with 75,579MW gross (43,288MW net) in operation and a significant program of 12,820MW gross (5,868MW net) projects under construction as at 31 December 2011. International Power GDF Suez is present in 30 countries across six regions worldwide.

International Power GDF Suez has taken a very close interest in the transmission framework review for many years now, and is very appreciative of the considerable work that the AEMC have carried out in this consultation to date. We hope that our attached submission provides a valuable contribution to this critical review.

Please do not hesitate to contact either myself or Chris Deague on 03 9617 8331 if you wish to discuss any matter regarding this submission, or the transmission frameworks review more generally.

Yours sincerely,

Stephen Orr
Director, Strategy and Regulation
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International Power GDF SUEZ Submission to AEMC Transmission Frameworks Review Second Interim Report

(AEMC Reference EPR0019)

10 October 2012

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Table of Contents

1 Executive Summary

International Power GDF Suez Australia (IPRA) congratulates the Australian Energy Market Commission (AEMC) on its comprehensive transmission frameworks review and second interim report. The AEMC have described a package of substantial reforms that in IPRA's view, would lead to more efficient investment decisions and market outcomes. This in turn would eventually result in reduced costs to customers.

IPRA have made a close examination of the AEMC's proposals for optional firm access, and we are pleased to note that the proposals closely align with IPRA's detailed submission to the first interim report. We strongly support the proposed optional firm access arrangements, as they would greatly enhance locational investment signals, provide generators with a mechanism to manage congestion risk, and provide TNSPs with incentives to maintain network capacity to agreed firm access levels.

Some of the apparent complexity within the proposed access pricing and firm access standard, arise, in IPRA's view, from an incorrect understanding of how the access planning process would be carried out. Section 3 of this submission contains a detailed explanation of the basis of this view, and then outlines a practical and simpler alternative approach.

The access pricing regime proposed by the AEMC was based on the expectation that the agreement of firm access would lead to a series of future costs. Close consideration of the necessary network planning regime reveals that this expectation was incorrect. A fundamental point thus outlined in this submission is that once firm access is agreed, it is enduring. In other words, all of the costs required for the provision of firm access can be established at the time of the firm access request.

IPRA have also given consideration to the planning and connections proposals in the second interim report. We consider that many of the proposals put forward by the AEMC have merit, and should lead to clearer responsibilities for AEMO, TNSPs and connecting parties. Our overarching consideration is that any reforms to the planning or connections area should be compatible with, and supportive of, reforms towards optional firm access.

IPRA appreciate that reforms such as those proposed for optional firm access need to be carefully designed, and then implemented in a way that does not severely disrupt the NEM. We have therefore suggested that where practicable, a staged implementation would be preferable to enable industry participants to adapt to the new arrangements.

IPRA look forward to providing any further assistance to the AEMC or its consultants as might be required in clarifying any items within this submission, and in taking forward this vitally important NEM reform.

2 The case for reform

IPRA considers that there is a strong case for reform of the National Electricity Market (NEM) transmission frameworks, and has provided detailed arguments for reform in its previous submissions. We will not repeat these arguments in detail in this submission. However we have included a brief summary of what we believe are the main arguments supporting urgent reform.

2.1 ACCC access approval:

In its decision in 1998 to accept the NEM Access Code, the ACCC made the following statement:

> "Consequently, the Commission believes that while the Code is largely neutral on firm access arrangements, the Code includes sufficient flexibility for generators and NSPs to negotiate access arrangements (including firm access) which is in the commercial interests of both parties. Nevertheless, if the generators' concerns are realised, and the NSPs refuse to negotiate terms and conditions, then at that stage it may be appropriate for the Code Change Panel to consider alterations to the Code which provide NSPs with additional incentives or obligations to provide firm access arrangements."[1]

It is clear from this decision taken at the commencement of the NEM that the ACCC was of the view that the ability to secure firm access was in the commercial interests of both generators and network service providers, and further, had the expectation that if needed, the Code should be altered to provide firm access arrangements.

2.2 Connection agreements

There are connection agreements in place today that formed part of the basis upon which many of the now privately owned generators were purchased. In many cases, these connection agreements include clauses which lead to the expectation that network service providers will maintain the required level of transmission access. It is also noteworthy that sections of the Rules note that where a conflict exists between the Rules and a connection agreement, the connection agreement is to prevail.

2.3 Code / Rule intent

IPRA was directly involved with the design and development of the Code and our experience confirms that the original intent of the Code (now Rules) was to provide for firm access arrangements. Although it is correct that the provisions in the Code/Rules have been found to be deficient in their practical application, there is never the less a clear intent in the Rules reflected in clause such as 5.4A.

2.4 Locational signals – efficient investment

Without adequate location signals for new generator investment, it is unlikely that generators will make efficient investment decisions, which in turn will ultimately lead to increased costs for consumers. The current transmission investment location signals based on marginal loss factors and knowledge of transmission constraints are difficult to predict and vary with time, and therefore provide poor locational signals. Firm access arrangements would provide a much clearer and more effective location signal, leading to more efficient investment decisions.

2.5 Risk allocation

The current transmission arrangements leave generators exposed to risks associated with network congestion with virtually no ability to manage them. Most generators enter into hedging agreements with retailers to manage wholesale price volatility. At times of high spot market price, the generator pays substantial difference payments. If the generator is constrained by the network during these high price periods, the generator is unable to recover sufficient spot market revenue to cover its difference payments. The generator is unable to effectively mitigate this risk, unless it avoids contracting, which in turn impacts retail risk, end consumer costs, and will potentially lead to inefficient over-investment.

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[1] ACCC NEM Access Code Decision 16 September 1998: Section 4.2: Connection negotiation procedures / Section 4.2.5 - Commission's considerations, page 90.

Firm access provides a more appropriate and manageable allocation of congestion risk by allowing the generator the option of paying to receive firm access, or deciding to remain as non-firm. The firm access model also incentivises the TNSP to maintain agree firm access levels, thus providing a more balanced risk allocation between generators and TNSPs.

2.6 Efficient dispatch

The firm access proposal would incentivise generators to offer into the spot market in a more cost reflective manner, and effectively eliminate the incentives for generators to bid at the price floor when facing a constraint (so called "disorderly bidding[2]"). This would lead to more economically efficient dispatch outcomes.

2.7 TNSP incentives

By providing incentives on the TNSPs to manage and maintain agreed firm access levels, the firm access regime provides a more coordinated set of arrangements between the market facing generators and the regulated TNSPs.

3 Access proposal

IPRA congratulates the AEMC on its comprehensive and detailed examination of the important issue of firm access arrangements in the NEM. We were pleased to note that the proposed optional firm access arrangements would achieve many of the objectives that IPRA was seeking in its submission to the first interim report.

This submission by IPRA provides high-level comments on both the non-firm access and the optional-firm access (OFA) proposals. This is followed by a detailed examination of the OFA proposals, and suggestions for improvement.

3.1 Non-firm access proposal

IPRA appreciates that in considering an important and significant reform, the "do nothing" counterfactual must always be considered to ensure that the proposed changes represent an improvement over the status quo.

The AEMC noted in its first interim report that a framework that promotes the efficient provision of transmission services would include the following desirable features:

- TNSPs have incentives to efficiently invest in and operate their networks to meet load requirements at least cost and support a competitive generation sector;
- generators have incentives to offer their energy at an efficient price and invest in new plant where and when it is efficient to do so;

[2] IPRA continues to note the inappropriateness of the term "disorderly bidding" and urges the AEMC to more accurately reflect the issue in its chosen characterisation of the market response. The responses to market signals pejoratively characterised as "disorderly bidding" are on the contrary, the logical and correct response for generators faced with the outcomes caused by the current Rules, including regional pricing . The notion of "disorderly bidding" suggests generators should obey simple economic theory to the detriment of their commercial positions, and should not be perpetuated by the AEMC.

- the policies, incentives and signals that govern transmission and generation decisions are coordinated to promote consistent decision making between the regulated and competitive sectors of the NEM; and
- the safety, reliability and security of the transmission system is maintained.

IPRA believes that it is clear that current arrangements in the NEM Rules fail to deliver on the first three of these desirable features to any significant extent. In particular, we note the lack of coordination between the regulated and competitive sectors, and the current incentives for "disorderly bidding". The non-firm access option will not lead to an improvement in the achievement of these desirable features.

IPRA suggests the characterisation of the non-firm access proposal as being "status-quo" is incorrect. The non-firm access proposal would in fact represent a backward step, as it would remove from the Rules the clauses that refer to the original intent of the ACCC access decision and the original intent of the Code, to provide the option to generators for firm access.

Apart from the issue of firmness, the changes contemplated would likely remove the protection of access agreed when new access is being negotiated. This intention is clear in the current Rules although it has not been delivered in practice. We submit that this component at least should be retained and applied in practice.

The removal from the Rules of clause 5.4A would be inconsistent with the intent of those existing connection agreements, which make provision for a measure of firm access. It is also noted that if there were an inconsistency between the Rules and a connection agreement, the connection agreement would prevail.[3]

In short, IPRA is firmly opposed to the non-firm access proposal, as it fails to achieve an improvement in any of the desirable features established by the AEMC, and further, it erodes the original intent of the ACCC and Code decisions.

3.2 Optional-firm access proposal

IPRA strongly supports the optional-firm access proposal. We believe that it will result in significant improvements in the contribution to the first three of the AEMC's desirable features (listed in section 3.1), without impacting negatively on the fourth.

IPRA considers that the OFA proposal represents a significant reform of the NEM, and recognises that although this is a highly desirable reform, it is also complex, and the implementation needs to be a carefully managed to allow parties to adapt to the new arrangements. In our detailed comments below, we have suggested some components of the OFA package that could be introduced as part of a staged implementation.

3.3 Detailed comments / suggestions on OFA

3.3.1 AEMC access pricing proposal

IPRA agrees with the aims of the proposed access pricing mechanism which are understood to be:

- introduce an incremental charge per MW for firm access; and
- ensure access costs are based on the transmission costs for provision of access.

[3] See for example, Rule clause 5.2.3(b)

Our support for both of these aims will be further expanded later in this submission.

IPRA has assessed the practicality of the proposed access pricing arrangements and has had extensive discussions with other industry participants, including generators and TNSPs. As a result, it is our view that the proposed arrangements are unnecessarily complex, and more importantly, are based on a false premise.

False premise

IPRA considers that the AEMC proposed access pricing approach seems to be based on the incorrect assumption that access pricing would need to use a cost estimate based on both the access under consideration *and* a series of hypothetical access provisions stretching into the future.

This (in our view) false premise is expressed, for example, in the first sentence of section 3.6 of the second interim report:

> "Providing new or additional firm access would increase the network capacity that the TNSP is required to provide under the firm access standard, either immediately or at some point in the future (where spare capacity could be utilised), thus imposing new costs on the TNSP."

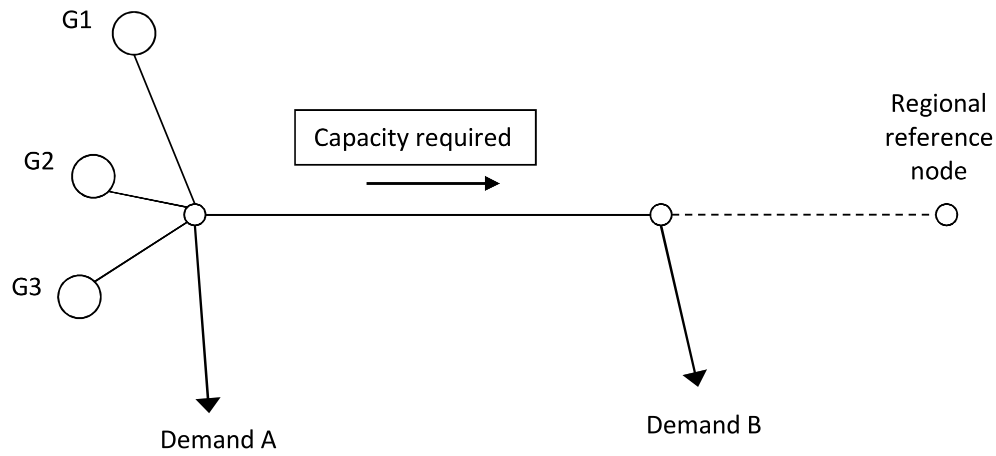
The following two sections expand on this issue.

Not all firm access requires network augmentation

The AEMC firm access pricing method has an implicit assumption that all firm access for a generator will make demands on the transmission network and will therefore impose network costs. We argue that on the contrary, there will be some opportunities to provide firm access at locations where customer demand is dominant and hence where the generator access makes no demands on the transmission network. In fact, generator installation at such a location will relieve demand on the network and provide some reliability benefits for customers.

This is demonstrated in the example shown in Figure 1, which shows three generators connected to a node with a local demand A. If the minimum value for demand A is greater than the aggregate firm access level for the three generators, then the aggregate generator firm access requirement is satisfied by the local demand, and the network capacity required to support firm access is zero.

Figure 1 Generator access example



We further submit that the utilisation of such low cost opportunities for firm access is consistent with the National Electricity Objective (NEO), since it has the potential to minimise the total cost of the generation and transmission investment. Hence the pricing process should provide the pricing signals to give such investment the right incentives.

No need to forecast future access requests

The above simple example can be extended to demonstrate that there is no need to forecast future network events or access requests in evaluating a particular access request.

We note that there is no rational basis for making assumptions regarding future firm access requests at any particular location. The past is likely to be a poor indicator of potential future access requests at any given location, and the future outcomes at a point in the network will be influenced by prior decisions. As an example, consider the situation described above where a preponderance of local demand provides a benefit in terms of low-cost firm access. Such an opportunity may lead to a high rate of new firm access provision, but only for a limited period during which this cost advantage remains. When the amount of access available at low cost is consumed, then the rapid growth is likely to cease abruptly, as other locations become relatively more desirable. Hence a forecast based on past growth is particularly likely to prove incorrect.

An assumption of high future growth in access provision would lead to the estimation of high future costs, which would then impact on current access seekers, despite the continuation of high growth being inherently unlikely in these circumstances. Any resultant price signal would be a mixture of real and hypothetical costs which would result in economically inefficient signalling.

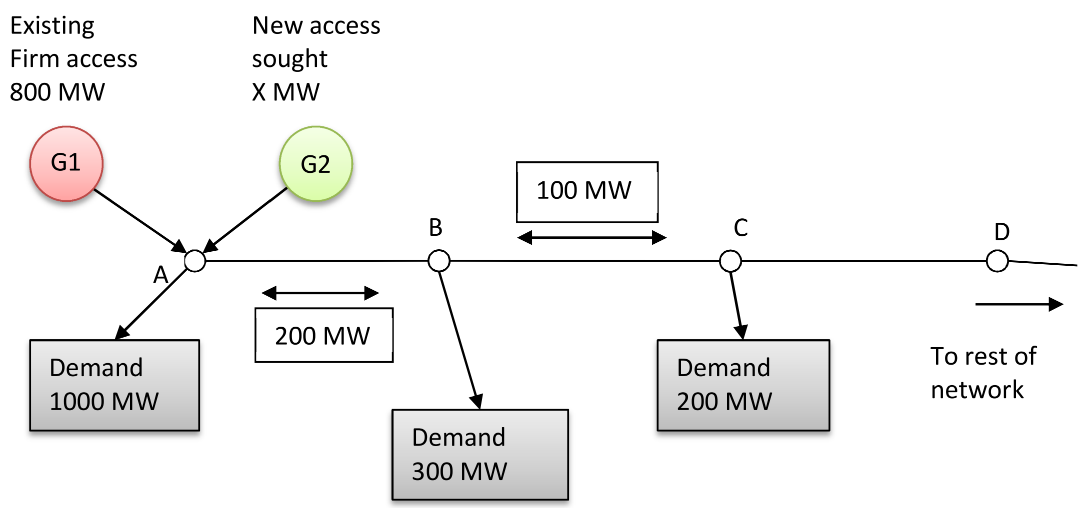
The dangers of access pricing based on forecasts

The dangers of using forecasts for pricing become clear by examining the way in which the cost of providing access changes with the aggregate level of access provided.

For the purpose of this discussion we will ignore the issues of lumpiness and scale- efficiency in network investment (although these are significant issues which we address later in this submission).

Consider a node initially dominated by local customer demand (node A) where an existing generator G1 has 800 MW of firm access, and a new generator G2 is seeking a level of firm access. The network has capability to provide flow into node A for reliability purposes, which can also (at no extra cost) allow flow *from* node A, as indicated in Figure 2.

Figure 2 Access pricing example



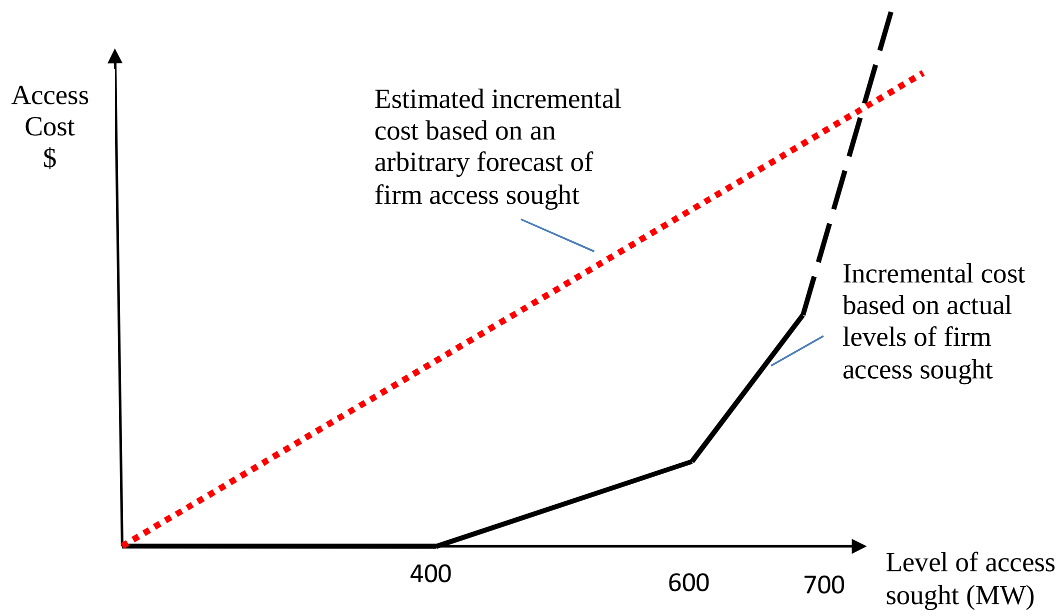
The variation of cost in providing firm access level X is described in the following table –

G2 access level X MW	Situation	Incremental Cost
0 < X ≤ 200	Access provided by local demand at node A – no transmission service involved.	$0/MW
200 < X ≤ 400	Access provided by local demand at node A and existing network capability A to B.	$0/MW
400 < X ≤ 500	Access requires augmentation of network from node A to B to provide G2 with access to demand at node B.	Incremental cost of augmentation of network from node A to B.
500 < X ≤ 600	Access requires augmentation of network from A to B to provide G2 with access to demand at B. No augmentation required from node B to C as this part of the network is within its existing capability.	Incremental cost of augmentation of network from node A to B.
600 < X ≤ 700	G2 access requires network augmentation from node A to B as well as from node B to C. This is needed to provide G2 with access to demand at nodes B and C.	Incremental cost of augmentation of network from node A to B, plus incremental cost of augmentation of network from node B to C.

700 ≤ X	Access requires network augmentation from node A to B as well as from node B to C. This is needed to provide G2 with access to demand at nodes B and C. Potentially augmentation required from node C to D and beyond	Incremental cost of augmentation of network A to B, plus incremental cost of augmentation of network from node B to C, plus any augmentation costs from node C to D and beyond

The variation of access cost with the level of access sought is illustrated in Figure 3. (Connection costs are excluded as they are not relevant to this discussion).

Figure 3 Access cost variation with level of access



It is clear from this characteristic that any incremental cost based on a forecast of future firm access requirements will be dominated by the arbitrary assumption of future demand for firm access, rather than being determined by the actual firm access being sought. The adverse effect of this method, especially with a generator seeking a lower level of access (in this example, less than 400 MW) is clearly evident. Such an outcome would provide incorrect locational signalling and yield economically inefficient outcomes (by either not utilising spare or low cost network capacity; or by undertaking uneconomic expansions which are mispriced as they are subsidised by the earlier connections).

The above discussion has demonstrated the deficiency in the premise that provision and pricing of firm access requires a forecast of future events, and an estimate of the potential costs of these future events. IPRA considers that this incorrect view originates from a misconstruction of the network planning approach that would be required to support the firm access arrangements.

To examine what IPRA considers to be the real nature of the cost consequences of firm access, we will take a short detour to describe network planning under firm access.

3.3.2 Network planning with firm access

As acknowledged in the second interim report, under the optional firm access proposal, network planning for reliability of supply to customers will continue unchanged.

The important relevant fact is that the same generator, operating into the same transmission network will have the same effect on customer reliability regardless of whether or not it has firm access. Hence network reliability studies do not need to consider whether or not a generator has firm access.

Furthermore, network reliability studies will provide no information on whether or not the transmission network is adequate to provide the aggregate firm access that has been agreed or is being sought. This is because the power flows used in these studies are an undifferentiated mix of flows originating from both firm and non-firm generation.

In order to study the adequacy of the network to support firm access, separate network analysis will be needed. The same basic techniques of network analysis will apply, but different conditions will need to be assumed, as described below.

While the techniques for network reliability planning are well established (although different in different regions), the techniques for access planning are yet to be developed. We expect that the access planning process will require further consultation. However the following observations suggest how access planning will differ to reliability planning. Access planning analysis must:

- be based on all relevant firm generators, operating to the full extent of their firm access. Non-firm generators will not impact on the analysis;
- be specific to a group of firm generators that compete for use of a common flowgate. Separate analysis will be needed for each such group of generators;
- recognise the variability of network capability, as affected by various weather conditions and network conditions, and will specify reasonably arduous conditions; and
- recognise that the power flow that the network needs to accept is the total flow from the firm generators *less* the local customer demand. Hence, low demand periods may be critical to the analysis.

Access planning analysis is not only separate from reliability analysis, it is also related to quite different circumstances. Each form of analysis will indicate a required network capability for a particular component of the network. It is very important to recognise that these requirements are independent of one another and are *not* additive.

The network capacity that is required at any particular location will be determined by whichever form of analysis calls for the greater capacity[4]. As noted in section 3.3.3, both the reliability analysis and the access analysis are potential inputs into the access pricing determination.

Different parts of the network may be dominated by the requirements for either reliability or firm access. However in some locations, these different requirements may be closely matched and the dominant requirement may change from time to time.

From this discussion it is evident that providing firm access cannot result in a delayed cost from a future reliability analysis, since the fact of firm access will play no part in that reliability analysis.

However it might be thought that the access analysis in later years might lead to network costs that are attributable to the original provision of firm access.

[4] These capacity requirements may need weather correction to make them comparable.

In order to clarify this point we need to consider the flows imposed on a flowgate due to firm access provision. As noted in the last dot point above, this flow comprises the components from each of the relevant group of generators *less* the reduction in flow due to local customer demand.

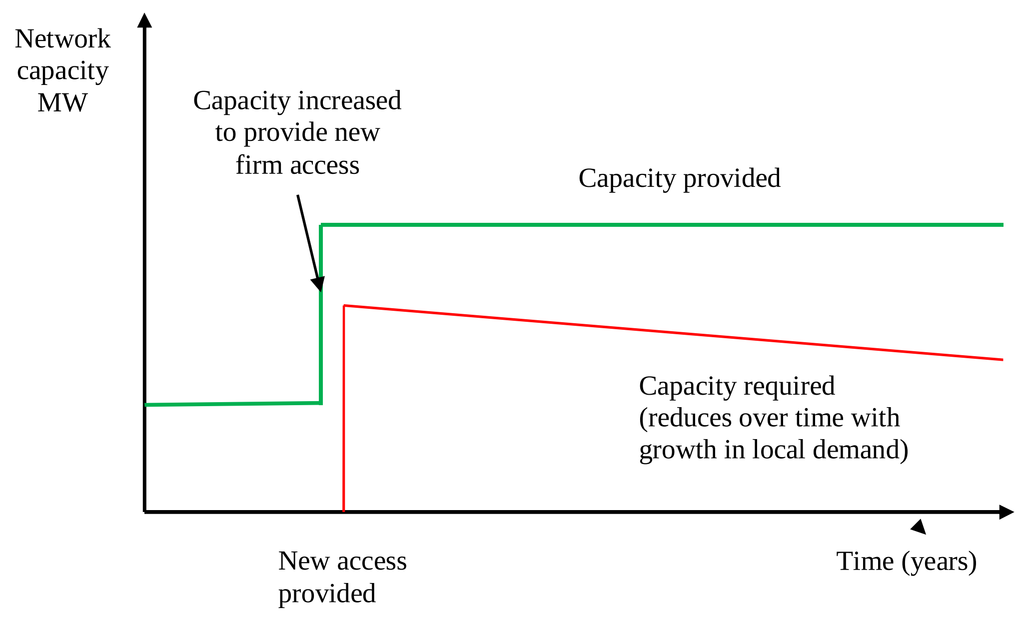
Earlier we considered the consequences of this fact in determining the impact of an access request on network augmentation requirements. We now consider the consequences of this fact in relation to repeated analysis over a period of years.

Consider a case where the access agreed with each of a group of generators competing for use of a common flowgate remains constant over a period of years.

The flow that the flowgate needs to accommodate, under access analysis, will be changed only by changes in local customer demand. In general, this demand is likely to increase, thus reducing the network capability needed for the flowgate. Thus is can be stated that once agreed, firm access is *enduring*, that is, it does not diminish with time.

It is conceivable, although unlikely, that this local demand might reduce. However, it would be unreasonable to expose a generator seeking access to a risk of additional cost due to a change in customer behaviour. The only case where a delayed cost may be a justified inclusion in the pricing process is where a demand reduction is highly predictable in both timing and magnitude. We submit that such circumstances will be vanishingly rare. The more typical situation with local demand *growth* is illustrated below.

Figure 4 Changes in network capacity with time



It should be noted that the capacity required would increase if new firm access were agreed, but any cost would be attributable to that new firm access seeker, and not the original firm access.

This analysis does not imply that future costs will not occur at such a flowgate, but rather that they will not be attributable to the access agreed earlier. For example:

- In later years, a reliability analysis may indicate a need to augment the flowgate capacity that was originally set by access analysis. In this case the relevant analysis (the later reliability analysis) is unaffected by the firm access, and would give the same result whether the generator is firm or non-firm. Hence this future cost is not attributable to the firm access.

- In later years, if a generator seeks new firm access at a location that already has one or more firm generators, then analysis of access adequacy may indicate a need to augment the flowgate to accommodate the new request. This cost is attributable to the new access seeker, not to the original firm access holder.

Contrasting characteristics of the two planning processes

Before continuing the discussion of access pricing we will briefly compare and contrast the two parallel planning processes that are required with optional firm access. The following table summarises some of the differences.

Input	Effect on reliability studies	Effect on access studies
Customer demand	Will generally increase the capacity required of the network	Local demand near relevant generators will reduce network capacity required. Remote demand has no effect
Connection of a non-firm generator	May increase network capacity required	Will not increase network capacity required
Connection of a firm generator	May increase network capacity required	May increase network capacity required (unless aggregate firm access remains below local demand)
Assumed weather conditions	High temperatures generally increase demand and reduce the capacity of certain network elements, making augmentation more likely	Access levels maybe stressed during other times, such as low demand periods where local demand is low. In contrast the temperatures maybe quite mild, thus increasing network capability.

We note that the second interim report has relied on the concept of “spare capacity” in relation to network adequacy. Given that the need for two separate analysis processes under OFA is now clear, the concept of a single value of spare capacity is untenable. A flowgate will potentially have spare capacity in a study of supply reliability, but this has no relevance in relation to adequacy of firm access provision. In this context a different spare capacity, if any, will be assessed.

Hence, under OFA the identification of spare capacity will be meaningful only if it is qualified as being in the context of a reliability study or alternatively in the context of an access study.

The access pricing regime proposed by the AEMC was based on the expectation that the agreement of firm access would lead to a series of future costs. From a closer consideration of the necessary network planning regime, we suggest it is clear that this expectation was incorrect.

With this concern removed, it is evident that a simpler and more accurate pricing method, based on the fact that agreed firm access is enduring, should be applied.

3.3.3 Alternative access pricing proposal

IPRA propose that an alternative access pricing approach be adopted, which is simpler to implement and more accurately reflects the actual planning processes. Before describing the proposed approach, we will outline some important principles and practical difficulties.

Principles for access pricing

The access pricing method must be consistent with the National Electricity Objective. In this context we believe that the method must result in economic benefits and not simply shift costs between segments of the market.

We agree with the AEMC that price signalling to support locational decisions by new generators is one of the appropriate purposes for the pricing method. The cost of obtaining network access is one of many costs related to a generator investment that will vary with location and time. Additional locational considerations will be fuel/energy source availability, access to water, the level of transmission losses, land availability and cost. The aim of introducing locational-specific transmission investment costs is to ensure that the generator's planning process takes into account all the resource usages that it will require for its operation.

As noted earlier, we also concur with the AEMC propositions that the access price should be an incremental price (that is a price per unit of access agreed), and that the price should be based on transmission costs.

In addition to these principles, we would add that the price determined should be specific to the time and place at which access is being sought. The price should not be "smeared" across different locations, or across different time frames. This principle is necessary to ensure that the price signal reflects the efficient costs of generation and transmission, as outlined in section 3.3.2.

Practical difficulties with pricing

The following aspects of the transmission network complicate the practical implementation of the above principles:

- It is often impossible (or inefficient) to increment network capability by only the amount needed, and the practical level of augmentation may be much larger than the estimated requirement.
- It is often necessary to implement a higher incremental cost augmentation before a lower incremental cost one (see our discussion later on augmentation in a meshed network).
- There are at times significant cost savings that can be achieved by anticipating future needs, (recognising a risk of stranding if the forecast is wrong).

In addition to these aspects of the transmission network itself, there is the further complication that the cost of providing access at a given location is a strongly non-linear function of the aggregate quantity sought. This provides a strong incentive for a generator to be priced on an early increment of usage rather than a later one, as demonstrated in Figure 3.

On the other hand, one practical difficulty considered in the second interim report, namely a series of future costs resulting from the provision of access now, has proved on examination to be inappropriate and some simplification results from this.

Simplification is important here, because the use of pricing as a locational signal implies that pricing for a given generator's access will need to be conducted at more than one prospective location so that the signal of differential pricing can be utilised. A complex pricing process might make this activity unduly time consuming and costly.

Outline of access pricing proposal

Having regard to the principles described above and the practical difficulties outlined, IPRA's proposal for pricing is as follows:

- The price is a rate per MW of firm access acquired.
- The price applies to a generator, or a group of generators gaining firm access at the same node and the same time.
- The price is the sum of the relevant incremental costs for each of the network links that are shown in the access planning study to carry flows due to the access at the relevant node.
- The relevant incremental costs are:
    - zero if the relevant network assets existed when the OFA regime commenced;
    - zero if the relevant network assets were constructed since OFA commencement on the basis of a reliability analysis;
    - the price per MW of flowgate capacity increase, as determined at the time of construction, multiplied by the relevant generator participation factor[5], for assets constructed since OFA commencement on the basis of a previous access adequacy analysis, where the new access provision relies on that spare capacity, but with the MW quantity limited to the spare capacity utilised;
    - the price per MW of flowgate capacity increase, multiplied by the relevant generator participation factor, for assets constructed to support the relevant access provision, but with the MW quantity limited to the extent to which the current access provision relies on the new assets (i.e. the component not supported by prior spare capacity).
- The incremental cost of increasing flowgate capacity may be either the cost of augmentation (if the augmentation was not contemplated for reliability purposes) or the cost of advancing the augmentation (if the augmentation was contemplated at a later date for reliability purposes).

This proposal deals with the lumpiness of network investment by applying the incremental cost of any network augmentation to only the usage level required for the access. This will often leave some the cost of the network augmentation not being funded by the generator(s). This is a common feature with the proposal in the second interim report. It is also a characteristic of current network planning and funding arrangements that customers bear the cost of such unavoidable over-capacity due to lumpy investments.

In relation to this we note that the aim should be to provide an appropriate locational signal, and not to shift costs from customers to generators needlessly.

The effect of combining an incremental cost based on a past augmentation for the purpose of access, with the incremental cost of a new augmentation to complete the access provision, is illustrated in Figure 5.

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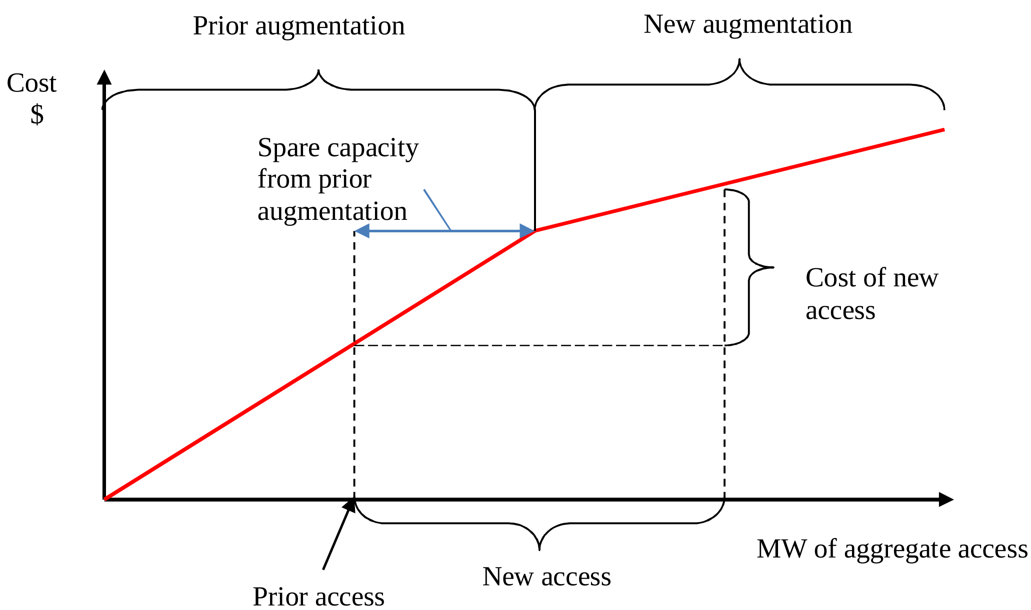
[5] The generator participation factor for a given flowgate is the resultant increase in the flowgate flow if the relevant generator were to increase its output by 1 MW. It is in effect, the generator coefficient from the relevant NEM constraint equation.

Figure 5 Combined incremental cost



One complexity has so far been omitted from this proposal, namely the issue of scale efficiency. This differs from the lumpiness of investment in that lumpiness is a consequence of the technology of the network, whereas scale efficiency relates to a choice.

There are two related questions here; who should decide whether a scale-efficient alternative design should be adopted, and who should bear the additional cost.

We note the ultimate beneficiaries of a scale-efficient design, if it succeeds, are the electricity customers. We therefore suggest that the decision should be made on the customer's behalf by an independent regulatory body (perhaps by the AER or AEMO in its capacity as national transmission planner).

This leaves the question of whether any special provision needs to be made in the pricing regime in relation to scale-efficient alternative designs. If the augmentation proposal is genuinely scale-efficient, it will have a lower cost per unit of capability and hence reduce the price to generators seeking related access under the proposed incremental pricing regime. Hence, as long as the independent body satisfies itself that the alternative is genuinely scale-efficient, no special provision is needed in the access pricing mechanism.

Optional group access acquisition

As noted earlier, it is characteristic of the cost profile of access provision that early users may have a cost advantage over later users. In general this is desirable in incentivising the harvesting of "low hanging fruit" prior to more expensive options.

However, it also has the potential problem of encouraging non-genuine queuing for access.

To deal with this potential queuing problem, it is proposed that there should be arrangements for voluntary grouped acquisition of firm access. This would be separate from any arrangements, as outlined in the second interim report, for grouped exercise of access in settlement.

The elements of this proposal are:

- The possibility of a grouped acquisition of access at a stated location would be advertised following an initial approach to a TNSP, at the stage where a preferred location has been determined by the prospective generator.
- Any generator or prospective generator would be free to join the group, subject to the condition that, if the grouped acquisition proceeds, they will commence payments for access from a common date applicable to the whole group (regardless of whether they have generation capacity to make use of the access at that date).
- The pricing for the group acquisition would be the incremental cost determined for the total firm access sought by the group.
- Any generator that chooses not to be part of the group could separately negotiate for access at the same location, subject to the conditions that:
  - the access would be provided later than the grouped access; and
  - the separate access would be separately priced (and hence potentially more expensive).

Generator impact on network capability

The above discussion has taken the network capability as a given, under specific conditions, such as temperature, wind speed, voltage level, network elements in service and generating patterns.

However, we understand that under some specific conditions, the connection of a generator may not only utilise part of the network capability, but may also change that capability itself. This we understand to be characteristic of networks that are limited by stability considerations rather than thermal limits.

In the case of a generator seeking firm access, this issue would be dealt with automatically by the requirement for the network following the additional access to support the whole new aggregate agreed access. The cost of restoring any lost network capability would therefore fall on the newly connecting generator seeking firm access.

In case of non-firm generators causing such a problem, it is also necessary to provide economically efficient location signals. The efficient outcome is to require the non-firm generator to pay for restoring any network capability that their presence removes, irrespective of their choice to be non-firm.

Consequences of network augmentation in a meshed network

In the staff report accompanying the second interim report, it is evident that the effects of network augmentation in a meshed network have been misunderstood.

The important consideration to note is that the transmission network is operated to limits which are based on the situation that would apply following the failure of some network element (the “critical contingency”).

In order to illustrate the consequences of this, we will use the example discussed in the staff report in section 6.2.2, namely a situation where there are four identical lines operate in parallel and one is augmented. For the purpose of this discussion we will assume that only thermal limits are relevant.

If one of these four lines was increased in capability by 1000 MW (as postulated), the critical contingency would become be the loss of the upgraded line and there would be *no* increase in overall network capacity.

The general pattern of the consequences of upgrading in a meshed network can be seen by considering the upgrading progressively of all four lines in this example.

Number of lines up-rated by 1000 MW	Increase in network capability (MW)
1	0
2	< 1000*
3	< 2000*
4	3000

* The increase in capability is less than 1000MW or 2000MW because in the post contingency situation the flows will divide between the up-rated and original lines according to their impedances. Hence one or the other will be fully loaded before the other reaches its capability, thus leaving some unusable capacity.

These considerations would be automatically taken into account in our proposal for access pricing, because this is based on the costs and the capability effects of actual augmentations. This is a further consideration in support of our pricing proposal as discussed earlier.

3.3.4 Firm Access Standard

IPRA supports the inclusion of a firm access standard as a part of an optional firm access proposal. However, some details of the proposal concern us, and we recommend:

- That the requirement for planning the networks to provide firm access should be confined to a single network condition, and hence not involve use of a pre-determined set of scaling factors for different operating conditions.
- That the use of scaling factors based on different operating conditions for the purposes of describing the expected performance of the transmission network to generators and setting performance standards for network service providers, be separated from the remainder of the OFA proposal to form a later stage, with implementation subject to a comprehensive review of the costs and benefits of these components of the package.

The following discussion addresses the reasons for these recommendations.

The effect of pre-determined scaling factors on network planning

The effect of pre-determined scaling factors in network planning is to create a bundling of products so that the choice faced by a generator seeking access is needlessly limited. We conclude that the consequences of this are inconsistent with the NEO. The following discussion will support this conclusion.

Firstly we note that the effects of different network conditions, such as outage of particular network elements, vary greatly from location to location because of differing network configurations. Unless scaling factors are made so restrictive that they become meaningless, there will always be locations where a particular operating condition is unusually difficult to meet.

Such a difficult operating condition may have a low probability of occurrence, for example it may apply only 1% of the time.

Consider the situation of a generator seeking access where the cost of access under most normal operating conditions (those termed NOC1, NOC2 etc. In the report) is low, but the cost of providing a fixed scaling factor under a particular operating condition (NOCx) is high.

Their generator's choices are to:

- scale back its firm access level until the particular operating condition can be met at low cost, thus limiting the quantity of firm access that a particular configuration of the network can provide, with this reduction based only on a low probability event;
- accept the increased cost of the desired access level, thus incurring substantial cost for the sake of increased access provision only for a particular low-probability event; or
- seek access at another location.

If given such choices, a generator would likely elect to unbundle the access and choose lower cost access for the majority of the time, while accepting the small risk of significantly reduced access under the critical operating condition.

We conclude that the bundling implied by fixed scaling factors results in outcomes incompatible with the NEO, in that it increases the cost of access, and/or reduces the quantity of access that a given network can provide, without allowing an economic choice by the generator seeking access.

A better solution would be to provide information to the generator regarding the foreseeable effects of different network conditions of the access provided, without forcibly bundling a mixed product and hence limiting the generator's choices.

We expect that TNSPs, if freed from the obligation to assess access for a large suite of network conditions, would be able to assess the particular conditions most likely to restrict access in a commercially significant way, and advise the prospective generator accordingly. The generator would then have the choice of accepting the access with this forecast limitation, or alternatively choosing super-firm access (at additional cost) to protect against this risk.

The simpler process we propose thus provides the prospective generator with a greater range of choices, and allows it to make the decision that suits its business best.

Aside from the major concern noted above, we also question whether network planning based on a variety of network operating conditions is practically achievable on any reasonable time scale in any event.

As described earlier in this submission, the analysis of the adequacy of the network to support agreed access must be separate from existing network planning (which is designed to assure reliability of supply).

We expect that the need to support both forms of analysis will rapidly lead to a workload at least twice the current network planning effort, even if the evaluation of access is limited to a single defined condition (as we suggest). The addition of a significant number of alternative network conditions for this analysis is likely to take the workload beyond the capability of the available resources.

A further issue of practicability relates to the need to define the relevant operating states. We note that the list of flowgate limits under different network conditions would run into many thousands for the NEM. The task of reducing this complexity to a manageable number of conditions while maintaining accuracy and meaningfulness appears very challenging. Even if this task should prove manageable, we contend that it would be unwise to attempt it in parallel with the already significant task of implementing the essential components of the OFA proposal.

We therefore propose that the use of scaling factors for different network conditions for any purpose should be included as a potential second stage to be implemented at a later time if required, subject to detailed consideration of the costs and benefits.

In the absence of scaling factors the firm access standard would reduce to a single standardised way of evaluating the adequacy of the network to deliver the aggregate of all agreed firm access.

Uses for defined access under different network conditions

Previously, we have made the case that the application of scaling factors for access under different network conditions would be contrary to the NEO.

In two other contexts, we see such scaling factors as desirable if they were to prove practicable.

The first benefit that we support is to inform a generator seeking access of the characteristics that would pertain to that access. The second benefit is in setting standards for the actual delivery of access by Network Service Providers.

Both of these applications are separable from the main components of the OFA proposal.

Given the high degree of difficulty we see in defining access over the range of network conditions, we propose that these uses for the information should be included in the OFA proposal as desirable objectives, but needing further consideration of costs and benefits prior to a final decision to proceed.

Information for generators on future access

We note that under the current market conditions, the ability of a generator to understand and respond to changing network conditions is essential in delivering economically efficient outcomes. In this context, we suggest, the type of information that might be provided through scaling factors linked to network conditions may be seen as a potentially useful supplement (if they were to prove practicable) but not as an essential component of the OFA regime.

Based on this view, we have proposed above that this aspect not be included in any recommendation for initial implementation of OFA, but rather for later consideration.

In the absence of formal scaling factors, we further suggest that Network Service Providers would be able to supply information to a generator seeking firm access on selected network conditions judged to be of commercial significance. Commercial significance relates to both the likelihood of the network condition arising and to the effect on access if it arises.

The extent of such analysis and the cost of providing it would be a matter for negotiation between the generator and the NSP.

Performance incentives for Network Service Providers

IPRA support the concept of providing performance incentives for Network service Providers.

However, as noted above, we do not believe that the concept of fixed scaling factors based on network operating conditions can be achieved in a reasonable time scale, if at all.

Further we note that the proposal would have serious deficiencies even if this central concept were workable. The critical element that is missing is the time dimension. Under the optional firm access proposal, a network condition giving severe reductions in access could be continued indefinitely without penalty provided only that the access delivered was better than allowed by the scaling factor.

We submit that an important objective of an incentive regime for NSPs should be to minimise the incidence of and duration of any circumstances that limit network access. This should include planned outages, to ensure that the work is adequately resourced, and forced outages, to ensure that appropriate urgency is applied when restoring the failed element.

We suggest that an effective incentive regime can be implemented without the need for scaling factors related to network conditions. As an example, we will briefly outline an alternative incentive regime.

- Each firm access agreement will include a level of forecast restriction below the agreed firm access level. This would be defined as an annual value to recognise the seasonality of network operation. It might be defined as a quantity of MWh of shortfall, which would be relatively easy for an NSP to estimate, or as a shortfall cost, which would be more difficult for a NSP to estimate but more meaningful for the generator, and lead to better incentives in terms of timing of planned outages.
- Once this forecast restriction level has been reached in a year, the NSP would then be obliged to contribute a proportion of the costs of subsequent access shortfalls (the use of a pre-determined proportion is similar to the proposal in the second interim report).
- The risks to NSPs could be mitigated by one or more of the following options:
  - Exclude contributions in relation to force majeure events.
  - Exclude contributions in relation to circumstances caused by third parties (e.g. restriction due to gunshot damage to network assets).
  - Capping the total annual contributions. (We note the undesirable consequence of capping in that the incentive regime has no effect once the cap level is reached; this could be managed to some extent by reducing the contribution proportion once a defined value is reached rather than reducing contributions to zero).
- The risks to the generator due to access shortfall would be mitigated by using the NSP contribution to restore some of the financial shortfall.

3.3.5 Transition proposals

IPRA agrees with the AEMC proposal to apportion transitional firm access within the existing network capability. While this leaves in place the limitations in access created by 14 years of history operating under an inadequate generator access regime, it does reflect augmentations put in place in the interim, and provides a less controversial basis for commencement of the changed arrangements.

IPRA support the proposal to allow transitional access to be traded between participants. This overcomes any concerns regarding the potential hoarding by generators of transitional firm access. Further to this, IPRA also note that the optional firm access settlements process, which limits firm access entitlement to the lower of agreed firm access and generator availability, effectively eliminates the ability for a generator to hoard firm access.

Importantly, IPRA stress that there is no basis to scale back the transitional access levels of tradeable access rights as proposed by the AEMC for the following reasons:

- As has been established in this submission, once agreed, firm access is enduring. It is noted that all costs implied by the provision of access are established prior to the network augmentation, including ongoing network operation and maintenance costs, if any, which can also be reasonably estimated at that time.

- It would not be reasonable to allow any market reform to overturn current commercial agreements such as connection agreements. This would create regulatory uncertainty around generation investment which has already been heightened by emissions legislation reform. Existing connection agreements will have different terms and conditions, including terms relating to access and the term of the contract. These must be recognised in the transition process. In any case these contracts sit outside the rules and it is not clear that changes in the rules can effect changes in these contracts.
- The proposal to have contracts of limited term does not appear to have any economic justification or efficiency objective.

3.3.6 Inter-regional proposals

IPRA remains concerned, as indicated in our previous submissions, by the risk that interconnector capacity will be further eroded, leading to a de facto fragmentation of the National Electricity Market.

We therefore agree with the intent of the proposal under OFA to allocate firm access to interconnectors in the case where there is remaining network capacity after transitional access has been provided to generators.

However, the remaining allocation left for interconnectors may turn out to be zero in many cases, as there are likely to be a number of network constraints where there is insufficient capability to provide transitional access to all relevant generators and to an interconnector as well. The second interim report proposes that in this case the generators would have priority, and we support this proposal. However the result may be that there are some interconnectors with no firm access allocated, unless a specific provision is made to avoid this outcome.

We note that the second interim report has not addressed the need we perceive for the OFA arrangements to be supported by two parallel planning processes, one to assess customer reliability of supply and the other to assess the adequacy of the network to support the aggregate agreed firm access. When this requirement is recognised then it becomes apparent that an interconnector with no firm access would be entirely excluded from the access adequacy analysis.

We propose that, to avoid such exclusion, each interconnector, in each price difference direction should be allocated some firm capacity. If no allocation results from the standard transitional process, we propose that a nominal firm access of, say 1 MW, be applied to an interconnector. This allocation would not reduce transitional firm access to generators appreciably. It would, on the other hand, ensure that the interconnector was included (albeit in a minimal way) in the assessment of the adequacy of the network to support firm access commitments.

We further propose that the AEMC should consider a mechanism to ensure that some level of interconnector capacity would be retained in all network planning contexts. IPRA is not seeking here to be definitive about how this should be achieved, but suggest that one mechanism would be to empower the National Transmission Planner to specify a minimum level of interconnector capacity to be retained when any network change is proposed.

We note that such a mechanism could be applied in parallel with the concept of auctioning interconnector firm capacity, and would act as a “backstop” in case the necessary coalition of interests under that mechanism proves difficult to assemble.

3.3.7 Other recommendations

5 minute settlement

The AEMC staff paper proposes that the settlement calculations required under the OFA model should be conducted on a Trading Interval (TI) basis. However, all the information that is relevant to this calculation process is defined on a dispatch interval (DI) basis.

The relationships between input and output quantities in the dispatch process is highly non-linear; there is no smooth transition between an unconstrained and a constrained dispatch outcome, and the relationship between inputs such as demand and availability and market price outcomes is very strongly non-linear.

It follows that the process of taking averages over the DIs within a TI will unavoidably create errors, distortions and anomalies.

This proposed process is not only a new source of errors, but is unnecessary. The settlement amounts relating to OFA can be simply calculated on a DI basis and these dollar amounts accumulated over the DIs within a TI. This process would avoid the errors inherent in averaging the various input values. This is true regardless of whether the current energy settlement process is retained or modified. It is also noteworthy that the existing settlement process for frequency control ancillary services uses a 5 minute process.

While it is not pertinent to the current consultation, we note in passing that it would be simple to apply DI settlement selectively for energy settlement, and would this overcome some distortions that are apparent under the current arrangements. For example, all scheduled generators and loads could be settled on a DI basis without adverse effects on secondary markets. The information needed to do this is readily available. Settlement on a DI basis could also be made available to any other participant that chooses to provide suitable metering information.

Flowgate support (constrained on generation)

Section 2.3.9 of the Technical Report deals with flowgate support and constrained-on generators, but concludes that a model to take advantage of flowgate support would be complex to design.

However, this conclusion arises because the discussion fails to distinguish between two separate cases which can easily be distinguished in practice. Constrained-on generation is the dispatch of generation above a minimum level where the price of that optional generation exceeds the regional reference price. Minimum generation here refers to either zero or else the level of generation defined by the initial generation level and the offered ramp rate for reductions.

The two cases of constrained-on generation are where a constraint equation:

- cannot be satisfied without the constrained-on generation; or
- could be satisfied without the constrained-on generation, and hence the additional generation is dispatched because it leads to a more economic dispatch result.

In the first case the value ascribed in the dispatch process to the constrained-on generation is based on a “constraint violation penalty”, a value which is a significant multiple of the Market Price Cap and is applied to achieve an orderly sequence when constraint violation becomes inevitable. This is an arbitrary value and not a suitable value to be applied in the OFA model.

To this extent we agree with the Technical Report that inclusion would be too complex, but only for this case.

The expected sequence of events in this case is that the generator would recognise that its revenue would not cover its costs, would withdraw its offer, causing AEMO to direct it to generate and hence make it entitled to compensation, enabling it to cover its costs.

However, the second case is very different. In this case the dispatch process is making a clear choice, recognising that the additional flowgate capacity dependent on the constrained-on generation has an economic benefit that outweighs the cost of the constrained-on generation. In this case there is a clear pricing discipline on the constrained-on generation, as it will not be dispatched unless its offer price is lower than the benefits that it provides.

In this second case, simple regional settlement leads to inefficiency. As in the first case, the generator would recognise its insufficient revenue and withdraw its offer. In the second case AEMO would have no basis to direct the generator, and hence an opportunity for greater dispatch efficiency would be lost.

This situation can be improved by a simple modification of the OFA model, to allow the constrained-on generator to receive its local price (the efficient price for their generation), leaving those generators sharing access through this flowgate sharing only that part of the flowgate capability that is independent of the constrained-on generation. Those generators are not worse off due to this change, because the access they share would be the same access that they would share following the withdrawal of availability of the flowgate support generator. Customers would benefit from this change due to the increased market competition that follows the greater access to market by low cost generators that would otherwise be constrained-off.

3.3.8 Implementation

The introduction of the optional firm access proposal represents a major reform the NEM, and will require some time for industry participants to adapt. It is therefore recommended that rather than introduce the full suite of changes as one package, the implementation be staged in such a way to minimise impact on industry participants.

The package of proposals lends itself to a staged implementation as outlined below:

- The firm access standard could initially be introduced using a single network condition as outlined in section 3.3.4, with the introduction of more detailed scaling factors at a later stage.
- The proposed transitional arrangements for TNSP regulation are supported, with the financial incentives on TNSPs being part of a later stage of implementation.

4 Planning proposals

IPRA is providing only high level comments in response to the planning proposals in the second interim report. Our primary concern is that whatever planning arrangements are introduced, they should be compatible with the optional firm access arrangements, which we are hoping will be implemented.

4.1 Broad views on planning proposal

IPRA support the principle of a strengthened national planner role for AEMO, with increased responsibility for ensuring planning coordination across the NEM. In particular, IPRA is strongly supportive of the national planner having clear responsibilities for ensuring that interconnectors provide sufficient capacity to meet the efficient ongoing needs of the NEM. This would include consideration of providing market participants with the ability to confidently enter into inter regional trading arrangements.

Although IPRA support increased responsibilities for the national planner, we believe that it is equally important that there are clear and transparent policy objectives in place for the national planner and the jurisdictional planners. This will be important to ensure coordination of effort, and consistent outcomes.

As discussed earlier, IPRA is strongly supportive of the optional firm access proposals in the second interim report, and our consideration of the planning proposals are subsequently based on the assumption that optional firm access will be introduced. On that basis, a key consideration for any changes to the planning arrangements is that they are supportive of the optional firm access arrangements. Areas where this may need to be considered in greater depth include:

- Ensure clarity of which network service provider a participant needs to deal with in order to obtain firm access; and
- Coordination of the broader planning application and negotiation processes with the optional firm access arrangements.

IPRA strongly supports the proposal for the last resort planner to be moved to AEMO, as we believe that this provides a good fit with AEMO's current and proposed responsibilities.

IPRA remains somewhat neutral on the question of standardising planning arrangements across the NEM. Whilst we accept that all else being equal, there may be merit in seeking a standard approach across the NEM, it is also important not to relinquish any desirable features of the current Victorian jurisdictional planning process.

IPRA is aware that there are currently quite polarised views among the TNSP's as to the merits or otherwise of the various jurisdictional planning models. IPRA notes that the second interim report seems to take the view that the current Victorian model, which differs to the other states, is the odd one out, and should therefore be aligned with the other models. We suggest that any proposal to change a planning approach should be done by firstly having established the desirable features and objectives that are being sought. Without a set of guiding objectives, it is difficult to assess whether a proposed change is desirable or not. Further, it has been suggested that when the development of transmission planning arrangements across markets around the world are considered, the Victorian model may be more the norm than the exception.

IPRA considers that the desirable features of the planning and investment arrangements should consider the following:

- There should be national planning of transmission at least for the bulk supply level – generation and main transmission paths – this should ensure target optimised cost for delivery of the combined generation and network necessary to support demand.
- This planner should be independent, and AEMO provides this independence with beneficial synergies in expertise and the relationship to market and system operations.
- In principle, it is difficult to conceive regulatory arrangements that would protect market facing participants from unnecessary investment in transmission assets, unless the investment decision is independent of ownership of the network. Only if the AEMC can devise a companion regulatory test that absolutely avoids the over-investment risk, should

the planner and investor be permitted to be the same entity. This view is not dissimilar to the existing prohibitions on common ownership of generation and transmission.

- Consistent network reliability standards are imperative, and a means must be found to take the beneficial elements of the probabilistic planning approach used in Victoria into the common model. There is little doubt that the Victorian arrangements are more frugal with consumers money than those used in other states, though it is possible that the Victorian approach tends to slight underinvestment.
- Competition in supply of the planned network elements is imperative to ensure lowest cost delivery.
- Whether operation of the augmented network can reside with the network owner or must reside with the regional TNSP is likely to depend on the nature of the augmentation.

IPRA is in general, supportive of the proposed changes to improve the transparency of the RIT-T, including information regarding potential wealth transfers due to the proposed option being considered. As noted by the AEMC, wealth transfers could have significant impacts on affected participants, and the wider economy, and it is desirable that these impacts are transparently reported. However, as indicated in the principles above, the proposed changes seem to IPRA insufficient to avoid the need for separation of ownership from planning.

5 Connections proposals

Broadly speaking, IPRA is comfortable that the AEMC has chosen to focus on strengthening the framework that applies to negotiated transmission services. Our more specific comments follow.

5.1 Connections

In relation to improving the efficiency of the connection process IPRA supports measures to increase transparency and provide an enhanced role for participants in the provision of augmentations to the shared network and connection assets.

IPRA believes that each TNSP should publish a standard connection contract. However, IPRA does not believe it is necessary to apply standard connection agreements or standard clauses across the NEM. This reflects the bespoke nature of connection where connection agreements are tailored for each connection and to meet the applicants' requirements and risk profile.

The AEMC should also note that while standard contracts can be published, this is not a panacea that will eliminate disagreements in terms which lead to delays in connecting and increased connection costs. Where parties cannot accept the standard terms, it is inevitable that these will be challenged.

IPRA also supports the Commission's proposal for TNSP's to provide detailed cost information to connection applicants.

The proposal to allow connection applicants to have a greater role in the TNSP tender process for connection assets through increased transparency and input; by providing connection applicants with all responses, a detailed business case for the decision and to demonstrate consideration of the connection applicant's preferences in choosing the contractor is also supported.

It is noted however that if all tenders for a connection conform to the relevant technical specifications (as governed by the Rules , TNSP standards and security and reliability requirements) there should be no reason why the connection applicant should not be able to select the contractor as proposed in the report by Deloitte for the Commission.

5.2 Network extensions

The Commission's proposal to amend/clarify the Rules to confirm that provision of extensions is through the competitive market for these services so that a connecting party can either:

- tender for the provision of extensions (connecting lines), or
- at the request of the connecting party oblige the TNSP to provide the extension as a negotiated service.

IPRA supports both of these objectives.

In practice extensions are currently provided by connection applicants generally through a competitive tendering process. They are not covered by the Rules as they are not part of the transmission system and in most states they are covered by the generator's licence. It is therefore not clear that any changes to the Rules are required to achieve the Commission's first objective in relation to the competitive provision of extensions.

IPRA is of the view that the market for the provision of extensions is workably competitive.

All the elements comprising the establishment of an extension can be undertaken either by:

- a generator connection applicant together with a contractor; or
- ownership operation and maintenance of an extension provided by a TNSP through a competitive tender.

As the Commission notes in most jurisdictions a third party may be able to gain a transmission licence and provide these services. The incumbent TNSP may have advantages by benefiting from economies of scale, scope, experience and capability; this does not necessarily mean that they have a competitive advantage or market power in the provision of extensions.

In the event that workable competition is not feasible the proposal by the Commission that, at the request of the connecting party, the TNSP is obliged to provide the extension as a negotiated service, provides a fall-back option.

In relation to extensions owned by a TNSP, and where a third party connects then IPRA agrees that the Rules need to be clarified to specify that the line must be upgraded (if required) in order to ensure that it can be operated to an unconstrained level. Further the Rules must clarify that the upgrade should be paid for by the third party. Upgrading the extension to be unconstrained ensures that the existing generator or customer is not disadvantaged by the TNSP providing access to the third party and is consistent with the principles of the OFA model as applied in the shared network.