Australian Energy Markets Commission

Review of the Electricity Transmission

Revenue and Pricing Rules

Comments on the Pricing Requirements

Proposed Draft Rule

by

The Major Energy Users Inc

And

Major Employers Group Tasmania

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Executive Summary

This submission is presented by consumers who directly pay for all the network services in the NEM. Consumers consider that a number of significant changes need to be made to the way the costs for transmission services are allocated in order to achieve greater economic efficiency.

1. It is incumbent on the AEMC when seeking to make changes to the Rules that the changes reflect three fundamental aspects

    - Recognise the causal factors for the increases incurred in network costs. The primary increase in transmission costs is a result of the increasing incidence of air conditioning loads, but these are universally seen as distribution network loads at TNSP interfaces. Unless there is a different approach taken by the DNSPs in allocating the transmission costs they incur, then there is little or no benefit achieved by making transmission costs more cost reflective
    - The benefit that is provided by all parties sharing a large asset in contrast to allocating cost on the Baumol–Willig basis at the extremes of avoided costs and stand alone cost.
    - Network charges (and energy costs) have increased due to transmission constraints and increased exposure to summer peaks yet those causing these peaks in demand see little of the impact of their demand shape

2. After consideration of the proposed draft Rules, there remain a number of issues that have not been adequately addressed by the AEMC:-

    - The cost of network services should be allocated in relation to demand and not by consumption, and this should be assessed on a fixed and representative number of peak demand days in a region

    - Consumers are exposed to differing costs related to their location in the network. By allowing generators to pay only “shallow” connection costs, they are not exposed to the locational impacts of their decisions.

    - The Rules discriminate against demand side responses and to a lesser extent embedded generation, and this discrimination needs to be urgently addressed.

    - To assume that parties who are not affected by an outcome will negotiate or follow broad principles is not efficient. It there is no incentive for both parties to negotiate then there will be no negotiation. By removing optimisation of networks there is no pressure on a TNSP to negotiate a prudent discount, as it suffers no penalty if the bypass occurs.

- The Regulatory Test should be modified so that the party paying most for the transmission assets should be permitted the energy pricing outcomes of augmentation made to the network.

- Consumers should have access to the mediation/arbitration facility of the Rules to assist them in their dealings directly with TNSPs

- There are anomalies in allocating the benefits of exporting power to other regions which fall on the consumers of the exporting region. As a minimum the auction proceeds should go to the exporting region and not to the importing region, and there is benefit for the costs of the NEM transmission backbone being separately costed and the costs allocated to all users (generators and consumers) in the NEM in proportion to the annual usage in of each region.

Overall, the AEMC's proposal draft rule is very disappointing. It is unbalanced and contradictory and fails to adequately reflect the interests of consumers. The draft rule will result in inefficient outcomes, introduce many anomalies in locational signals for generators, incentivise network investment inefficiencies and encourage cost padding. Above all, it will lead to increases in inefficient input costs (transportation charges) for downstream investments.

1. Introduction

The MEU and MEG

The Major Energy Users (MEU) and the Major Employers Group Tasmania (MEG) comprising some 30 major energy using companies in NSW, Victoria, SA, Tasmania and Queensland welcome the opportunity to provide comments on the Review of the Electricity Transmission Revenue. In particular, the submission represents the views of the Energy Markets Reform Forum (NSW), Energy Consumers Coalition of South Australia, Energy Users Coalition of Victoria and Major Employers Group Tasmania.

The companies represented by the MEU and MEG (and their suppliers) have identified that they have an interest in the **cost** of the energy networks services as this comprise a large cost element in their electricity and gas bills.

Although electricity is an essential source of energy required by each member company in order to maintain operations, a failure in the supply of electricity or gas effectively will cause every business affected to cease production, and members' experiences are no different. Thus the **reliable supply** of electricity and gas is an essential element of each member's business operations.

With the introduction of highly sensitive equipment required to maintain operations at the highest level of productivity, the **quality** of energy supplies has become increasingly important with the focus on the performance of the distribution businesses because they control the quality of electricity and gas delivered. Variation of electricity voltage (especially voltage sags, momentary interruptions, and transients) and gas pressure by even small amounts now has the ability to shut down critical elements of many production processes. Thus member companies have become increasingly more dependent on the quality of electricity and gas services supplied.

Each of the businesses represented here has invested considerable capital in establishing their operations and in order that they can recover the capital costs invested, long-term **sustainability** of energy supplies is required. If sustainable supplies of energy are not available into the future these investments will have little value.

Accordingly, MEU and MEG are keen to address the issues that impact on the **cost, reliability, quality** and the long term **sustainability** of their gas and electricity supplies.

The members of MEU have been involved in nearly every economic regulatory review (both gas and electricity) since deregulation of the energy markets commenced in 1996, as well as participating in the drafting of the electricity and the gas access regulatory regimes As a result, they have accumulated a wealth

of knowledge of the relevant regulatory and legislative processes, and in particular observed and experienced a number of perverse outcomes resulting from the application of the rules and regulations over the past decade.

A brief summary of the outcomes consumers seek with regard to the proposed pricing Rules

- Consumers recognise that the costs of providing a network are driven by the peak demands placed on the network, by both generators and consumers. This means that the approach to pricing must be based on the usage placed on the network at peak system days.
- Efficient allocation of costs is dependent on the TNSP using only the peak system demand. As the peak demands occur infrequently, it is essential that these times are required to be used for efficient cost allocation
- There is only one node per region, yet the issue of charging transport costs as if all power goes to, and then from, the node is not efficient and actively disadvantages regional and rural consumers located near generation
- The Baumol-Willig approach to setting the acceptable range for cost allocation (ie between standalone and avoided cost) is too wide for efficient and accurate cost reflective allocation, as it clearly provides a bias to one user class at the cost of another user class. Cost allocation needs to reflect the benefits of shared usage
- There must be total transparency in cost allocation
- There is a clear need for the usage signals provided in the transmission cost allocation to be transferred into the distribution networks. Currently most consumers are connected into the distribution businesses and the allocative signals in the transmission networks are lost by the actions of the distribution businesses.
- Loss factors
- NEMMCo impacts?
- Keep it simple
- Point to point costs need to be made clear and allocated appropriately

A paramount objective of the review is to meet the objects clause contained in the NEL, viz.

> "The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system."

As pointed out above, consumers have a "four points" approach to electricity supplies. They are:-

1. low cost in order to maintain the viability of the enterprise
2. high quality to avoid outages caused by voltage spikes and dips
3. high reliability in order to maintain continuity of the operation of the enterprise
4. sustainability of supply in order that the investments made by the enterprise can be recovered.

These criteria apply equally to both commercially based and residential enterprises. Whilst it is relatively easy to quantify in economic terms the value of these criteria to commercial business, the same criteria do apply to residential consumers – the value of their investment can be adversely affected by changes in these four criteria.

Consumers therefore require all four of these criteria to be achieved in order for the NEL requirement of "…the long term interests of consumers…" to be met.

In the submission to the Issues paper, the MEU pointed out that the AEMC approach to trade-offs between short term and long term benefits needs to be carefully assessed. This point has been totally ignored in the AEMC pricing proposal. Investments by consumers (be they industrial or residential) have a life of their own. If the approach by the AEMC results in the detriment of these investments (or failure to invest) then the AEMC has tacitly accepted that it is only required to assess the impact of investments by the electricity supply businesses, and has therefore failed to address the issue in accordance of the Law.

Throughout the AEMC draft proposal paper, the AEMC consistently refers to the interests of the transport businesses and those of generators. Nowhere in the assessments made by the AEMC is there reference to what consumers would see as appropriate. It is clear that the AEMC has made an in-principle decision that whatever is good for the TNSPs and generators must perforce be in the long term interests of consumers. This approach is in stark contrast to the approach being taken by the Energy Reform Implementation Group which sees that **all** decisions made must clearly demonstrate the interests of consumers.

The AEMC's review must therefore have due regard to the impact of its rule changes based on a clear appreciation of consumers' perspectives. So far, it has failed to do so.

The AEMC states in its preface that:

> "In conducting the Review, the Commission has placed an emphasis on the role that the transmission network has in facilitating competition and efficient resource use in the electricity wholesale and retail markets. The interactions of the transmission network with the competitive sectors of the electricity system, together with the market power that can be associated with the supply of certain transmission services, are the principal reasons why the Commission has sought to ensure that the transmission regulatory arrangements are effective in promoting efficient behaviour and outcomes across the market." (page viii)

The MEU applauds this sentiment, **yet finds it difficult to identify where in the detail of the changes made to pricing (or indeed in the earlier AEMC revenue decision), that the sentiment has been translated.** Consistently the AEMC refers to incentives it provides in these pricing approaches to generators and the TNSPs, yet it does nothing to assess the impact of these incentives on consumers who are required to pay for the transmission network.

One of the most sententious issues is that of the one "who pays the piper should call the tune". Consumers pay the TNSPs for use of the network, and the AEMC has stated that generators shall only pay shallow costs. Yet increasing transmission (in particular more interconnection will lead to reduced regional price separation) will increase generator competition. But the AEMC has provided no firm landing on this issue or how it will be addressed.

The approach taken by the AEMC provides virtually no locational signals for new generation but accepts that any consumer located away from the regional node must pay transport from the node, even if generation is located near the consumer. When this pricing approach is combined with the loss factors attributed to both consumers and generator, regional consumers and generators become even more marginalised.

The AEMC advises that it is relying on incentive regulation as the basis for obtaining the most competitive outcome for network users. What it fails to address is that there is little incentive on TNSPs to negotiate as they have a revenue cap and unless the incentive is related to their performance incentives where up to 5% of the revenue can be earned or lost, there is no point in assuming that incentives will encourage a desired outcome.

The AEMC states that it

> "…believes that the NEM Objective is founded on the concept of serving the long term interests of consumers through the promotion of economic efficiency in the provision, use of, and investment in,

> electricity services. Efficiency refers to the maximisation of the total value consumers and producers jointly obtain from the market". (Page 12)

This view is supported, and the AEMC goes on to comment how the outcome can be achieved. What the AEMC fails to do at any point further into the report, **is to advise how each of the decisions the AEMC reaches, matches these goals, and what the impact of the decision will have on consumers.**

This demonstrates a major failure on the part of the AEMC in regard to this pricing review and the earlier revenue review, in that after reciting broad statements which are in line with the NEL objective, there is a total lack of assessment of the impacts of the decisions the AEMC proposes in light of the objective.

2. Framework and approach

The AEMC states that it considers that the NEM objective (in relation to the transmission pricing review) can be fulfilled by

1. the TNSP being able to recover its efficient costs, and

2. prices providing clear signals to users (both generators and consumers) of the cost impact of the decisions the users might make.

These general observations are supported, but it is what they do not say that is of equal (if not greater) importance to consumers.

2.1 Recovery of efficient costs

Efficient costs are those which are the least cost to provide a service of the standard required. The AEMC, in its revenue decision, has provided clear and unambiguous signals to TNSPs that investment in the network is of the greatest importance, even if the investment is excessive. The AEMC accepts that once an investment is made, regardless of cost, it is to be retained in the RAB regardless of its efficiency. There is no penalty on a TNSP if its investment at some time in the future is demonstrably not required – consumers are still required to pay for the investment made. All business risks are transferred to consumers, yet the TNSP is still to be awarded a high return to accommodate the risks it no longer is required to take

This is made quite clear in that a TNSP is permitted to expend a fixed amount of capital each period, regardless as to whether this was expended on projects identified as being needed (this particularly applies in the case of the probabilistic approach to capex setting), and there is no ex post review to identify if the investment was carried out efficiently. If more is spent on one project than was budgeted by the TNSP and accepted by the regulator, the actual capital expended is added to the RAB with no ex post assessment.

This is hardly recovery of efficient costs. Moreover, there is no incentive for the TNSP to invest efficiently, rather an incentive for gold-plating its investment.

The AEMC goes on to state that if the TNSP fails to recover efficient costs, then this will impact on the incentive to invest (both on operating costs and capital costs) potentially at the expense of the long term interests of consumers.

What the AEMC fails to note is that if the recovery is greater than needed, the TNSP is encouraged to add unnecessary investment (particularly capital) than the efficient amount.

While the imposition of a revenue cap tends to mute the signals to a TNSP to invest inefficiently as an over-recovery is adjusted in the following year, the revenue cap also tends to equally mute the signals that come from under-recovery. What is not muted at all, is that if over investment is made based on the cost recovery signals provided, then this investment is still rolled into the RAB. If an under investment is made, then there is the ability to add the cost of this investment at the next reset.

Thus the consumer is levied the costs of both needed investment and over investment and the new Rules now give the regulator absolutely no ability to do anything about this.

The AEMC has provided the TNSP with an open ended ability to increase the size of the network without there ever being any evaluation as to whether consumers are actually receiving the benefit of efficient investment.

2.2 Signaling decision making

The AEMC blithely accepts that by providing appropriate transmission pricing, this will signal efficient decision making by both consumers and generators. This assumption prima facie appears to be a sensible statement. But it is not the statement itself that creates the problem – it is the impact of other decisions which makes this statement absolutely unworkable.

Firstly, the AEMC itself has decided that the generators should only pay shallow connection costs – these are those costs which are incurred up to the point where the new generator connects to the transmission network. This means that any augmentation of the shared network required to accommodate the new generator will be paid for by consumers. Thus the only decision a generator must make is how far from the shared network it will locate, and how it will connect. The AEMC has decided that generators need some form of incentive to provide supply, and therefore it is the fault of the consumers that new generation is needed.

This assumption is totally negated by the facts. In making this statement the AEMC totally overlooks the fact that generators (one class of networks users) can connect to the network without adding any benefit to consumers (the other class of network users). Generators operate in the competitive sector of the NEM and therefore only connect to the network so they can make a profit, and not to provide a service to consumers[1].

[1] AEMC notice is drawn to the investments made by the (say) the supermarket chains. They provide an essential service – that of food provision. Do they invest to provide a benefit to consumers or do they invest to make a profit? Does the regulatory environment for retailing provide incentives for the supermarket chains to invest – no! Why then should the AEMC provide incentives for generation to invest?

The AEMC points to the fact that new generation will create competitive pressures on dispatch prices of generators and so augmenting the shared network to accommodate additional generation is in the interests of consumers. As far as it goes this is true, but again it is what is not discussed that creates the problem. Generators should be actively encouraged to locate near demand, as this is the most efficient form of electricity transport. By not providing signals to generation that it should locate near to loads, the pricing approach provides no incentive to efficiently locate generation[2].

Secondly almost all consumers are embedded in distribution networks. The number of consumers directly exposed to transmission pricing is negligible as a proportion of all consumers, although in proportion of total usage it would be higher. As most consumers are embedded in distribution networks, it is essential that a review of the pricing approaches by distribution businesses is examined to identify if the TNSP pricing signals are used in reality. There is one DB in SA and Tasmania, two in Queensland, three in NSW and five in Victoria. Every one of these DBs do not pass through the transmission price signals clearly to each of their customers. Those locational signals which are passed on by DBs are very muted and bear little (if at all any) resemblance to the transmission pricing signals.

By only charging generators “shallow costs” generators connecting to the network are actively encouraged to locate where generation costs will be lowest, rather than at the point of need (ie where the demand is located). Further generators are also encouraged to connect in the way which minimises the costs for them, even if the expense is carried by consumers. Generators have the ability to connect either to the transmission network, or the distribution network, which ever gives the lowest cost to the generator, regardless of the costs this may cause to consumers.

This then creates a fundamental question – if all generators and almost all consumers never see the impact of transmission pricing signals, where is the efficiency to be gained?

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[2] In our supermarket analogy, the AEMC approach leads to supermarket chains locating near their supply points, and not where the consumers are located. Economic efficiency dictates that the supermarket providing trucks to deliver large amounts to the supermarkets located near consumers is more efficient than every consumer driving to the supply points. The cost of the trucks is included in the cost to consumers.

The supermarket makes its own decision as to where it locates its supply points, and accepts the cost penalty of where it locates its supply points relative to its competitors. In this analogy, the roads are the equivalent of the transmission network.

2.3 Basis for charging

The AEMC provides argument for the “causer pays” approach to cost allocation rather than a “beneficiary pays” approach. This is convenient as it is the consumer that always causes the need for network augmentation and for new generation. What it avoids though is that there is then no signal to generators to locate where the demand is, as the costs will be borne by consumers.

It then decides that generators, even if they benefit from the augmentation, will not be exposed to the costs, as consumers should pay – being the causers of the works. One argument given in favour of this approach is that generator costs are ultimately passed onto consumers, but this obviates the very nature of the efficiency resulting from pricing signals. If there is a higher cost resulting from a generator locating near to a load compared to locating remote to the load, it is less economically efficient to allocate the costs to a party which has no say in the resultant costs or is able to influence the magnitude of the costs. The party which causes the costs to the consumer is insulated from the impact of the decisions it makes. This is inefficient.

On the other hand, a consumer that uses the transmission assets once a year, is required to pay full value for the asset as if it used the assets consistently. This militates against demand side responsiveness and creates inefficiencies. **This issue was raised by MEU but has not been addressed in the AEMC report.**

2.4 Sunk cost recovery

As noted above there is now little control on the TNSP in incurring sunk costs, and how it does this. The AEMC draft revenue rules ensure this is the case.

It is accepted that as a transmission network is capital intensive, the variable expenditure is low and that most of the costs a TNSP relate to the costs associated with their investment. Once made, the assets remain and there is only a modest ability to reallocate the assets should their use decline. Thus pricing signals need to reflect this actuality of “sunk costs” which need to be recovered. Regardless of this, price signals are required and, as the TNSP operates on a revenue cap basis, it is feasible that the costs associated with sunk capital can be recovered on a variable basis.

Thus the fact that the bulk of the revenue is related to sunk assets, this does not preclude the use of strong pricing signals being developed.

2.5 Efficient locational and investment signals

The AEMC points to consumers needing strong location signals to provide incentive to locate near generation, as this is most efficient.

> "For example, if the price for transmission use is based on the short run marginal cost (SRMC) of transmission, this may encourage consumers to locate far from generation sources so long as spare transmission capacity exists." (page 29)

By taking the approach of not seeing issues from the view point of consumers, the AEMC opines that signaling should be only one way – ie an issue for consumers and them locating in the most efficient way. Yet it totally disregards that an equal incentive should apply to generators when considering their locational decisions. **There should be an incentive for generators to locate near loads, but this fundamental proposition is ignored.**

If the AEMC took the view of its pricing as it should (ie from the long term interests of consumers), then it would reach a different solution.

2.6 Other aspects of the NEM

It is accepted that the AEMC must consider the overall framework of the NEM in developing its views, and this is accepted. However the AEMC raises the issue of

> "non-firm generator access to the market"(page 29)

Analysis of this aspect should lead the AEMC to identify that its "causer pays" approach might be incorrect. A non-firm generator creates a number of issues for the NEM, particularly if the amount of generation is variable, such as wind generation. The TNSP must ensure that its shared network can accommodate the full output of the non-firm generator – this requires the sizing of the shared network to reflect the maximum power generated, yet by its very nature a non-firm generator has a low load factor – in the case of wind generation NEMMCo assesses the capacity factor is lower than 25%, and this compares to a firm generator which usually operate at >80% load factor.

Thus compared to firm generation, the shared network needs to be rated at much higher capacity for a wind generator than for a firm generator. This increase in rating of the network is paid for under the AEMC "causer pays" approach by consumers, yet under a "beneficiary pays" approach, the excess transmission capacity would be attributed to the wind generator.

By not following a "beneficiary pays" approach the AEMC is embedding an inefficient cost on consumers, and therefore a cost not in the long term interests of consumers.

2.7 Approach to existing Rules

The AEMC points out that there are anomalies within the existing Rules which lead to confusion. One such anomaly is that a presumed beneficiary might be

required to pay for the use of assets (as detailed in the allocation of entry and exit charges, as detailed in section 2 Schedule 6.2).

It was discussed above that very few consumers are connected to the transmission network and that the majority of consumers are connected through the distribution networks. Thus the actions of the DBs are a critical element of any cost allocations carried out under the transmission pricing review. The AEMC has excluded generators from paying anything above “shallow connection costs” thereby insulating generators from shared network costs.

Generators embedded in distribution networks are provided with a benefit of the avoided TUoS caused by the embedded generation activity applicable at the transmission connection point. Embedded generation gets this benefit yet it is not required to pay for any of the assets it uses to get its product to market, if the output of the embedded generator is greater than the demand in the distribution network.

Under the “causer pays” approach, this provides the DB an ability to completely obviate the cost allocation approaches provided in the transmission network.

2.8 The AEMC approach

The AEMC has decided that it will maintain the existing approach in the Rules, but addressing them on the basis that the “causer pays”, remove detail and permit greater freedom to TNSPs, and would marry the pricing Rules to the revenue Rules.

Whilst there is some support for this approach, it also creates detriments to consumers, which is not part of the NEM objective.

1. By following the “causer pays” approach, it is tantamount to requiring consumers to pay for all TNSP costs, and that there is no pressure on any other party (directly connected generators, embedded generators and DBs) to be subject to any locational price signals. This is economically inefficient.

2. Reducing the detail in the Rules to a “principles only” approach has merit, but one of the principles must be that the TNSP is required to achieve cost reflectivity in its cost allocation. To rely purely on the Baumol-Willig range of prices of between avoided cost and standalone, is not sufficiently accurate to ensure that appropriate pricing signals are in fact provided.

3. The procedural approach of permitting the TNSP to set its own pricing approach is not appropriate. There is a very low incentive on the TNSP to devote appropriate and sufficient resources to achieve true cost reflectivity, and therefore the pricing signals provided might not meet the fundamental needs to achieve economic efficiency.

4. Cost allocations should apply when the network is most heavily loaded. To allocate costs on the average demand provides a bias. The AEMC should ensure that the allocation of costs is made on the relative few peak demand periods, as this best provides the basis for cost reflective signaling to network users

Because of the power inherent in cost allocation to providing signals to the TNSP, generators and consumers, this matter is far too important to be left to the TNSP's discretion without the establishment of sound principles, close supervision, and verification of the outcomes.

3. Key network pricing issues

Consumers require an electricity supply system which is based on efficient costs and is reliable, high quality and sustainable in the long term. As mentioned in the introduction consumers have made their own investments which are predicated on the long term sustainability of electricity supply. Thus the AEMC must be cognisant of the fact that to just consider investment being made by TNSPs and generators without considering the investments made by consumers, it fails to address the long term interests of consumers and its actions are not consistent with the NEL objective.

3.1 Shallow or deep connection costs

The AEMC has decided that it agrees with generators and TNSPs to charge generators for any costs other than for the direct connection to the shared network. If additional work is required deeper in the network to accommodate the new connections, then this is a cost to the consumers who "caused the need" for the additional generation.

The AEMC notes that if the siting of new generation causes congestion in a particular part of the transmission network, then it will consider this issue within the pricing Rules after it sees the outcome of the congestion management review which is due for completion by end 2006 – this will ensure consistency between congestion management and the pricing Rules. In particular the AEMC comments

> "… that while generators do not 'cause' transmission investment, the siting of new generators in particular locations can contribute to transmission congestion such that the ability of existing generators to evacuate power is adversely affected." (page 41)

The AEMC approach therefore accepts that in the absence of congestion, generators should be totally free to locate generation wherever the investor pleases. Thus locational signals (such as locating generation near loads) are totally discounted by the AEMC and are not to apply.

The AEMC does not even attempt to identify if this is economically efficient, yet it does point to the fact that locational signals are required to encourage consumers to locate near generation. The outcome of this is that it is the interests of generators that the AEMC provides for by forcing consumers to move to where the generator decides is most efficient for it.

Furthermore, there is generation added to the market which is not economically efficient (such as generation provided with incentives to be built), and which either displaces other generation already in place and for which consumers have

paid for the transmission, or increases the reserves of generation already installed. If this new generation does not create competition for existing generation (such as non firm generation which does not increase competition) then consumers are required to pay for new transmission for the new generation which does not lead to increased competition, as well as pay for the transmission already installed. The assumption which underpins the AEMC approach (ie that all new generation is not a “causer” but is a “responder” to market forces) is that all new generation is a response to consumer demands. This is not always the case (particularly for non firm generation) and therefore the assumption does not hold across all cases.

The AEMC goes on to advise that as an intending new generator seeks to connect to the shared network, and seeks an increase in the capacity of the shared network to allow it to dispatch, the augmentation costs to the shared network would be considered a “Negotiated Transmission Service” under the need to increase the potential for dispatch. This is effectively providing existing generators with access rights to the shared network and so creates a barrier to new entrants, while providing incumbents with free access. For the AEMC to conclude that the “Negotiated transmission Service” obviates the disadvantage of “shallow connection” in practice actually provides a barrier to new generation entrants.

That VENCorp uses this approach does not necessarily imply that it is a correct approach.

Overall, the proposed approach suggested by AEMC has a number of distinct disadvantages for consumers.

1. It provides no locational signals to generation to locate near to loads, as economic efficiency would dictate
2. The assumption that increased generation is always in the interests of consumers (and therefore meets the NEL objective) is not proven, and there are examples where additional generation does not provide any benefit to consumers
3. The approach implies that consumers should relocate to be near to generation, rather than generation locate near to loads
4. New firm generation can be disadvantaged by the proposed approach as it gives the new entrant the obligation to increase the capacity of the shared network, but allowing incumbent generators continued access. While not conferring access rights, the approach gives incumbents better rights to access then new entrants.

3.2 Generator TUoS charges

The AEMC has lightly passed over the issue of generator TUoS charges, opining that:

- There is unlikely to be a benefit, although no attempt has been made to demonstrate this assumption
- Where such charges are levied, they operate in a different pricing region environment
- It would potentially distort bidding and dispatch, although no attempt has been made to assess if this is true
- The role of the Negotiated Transmission Service might affect some of the disadvantages
- Despite the current Rules permitting TUoS charges being levied on generators, this has not happened
- Consumers would ultimately pay anyway, so who cares!

The whole purpose of TUoS charges is to provide locational signals to users of the networks. The costs to a generator for building remotely from the load but adjacent to a fuel source and getting free transport for its product needs to be balanced against the actual cost of transporting the fuel to a generator which is located adjacent to the load. The economic efficiency of locating close to the load is entirely lost if the generator has the choice of paying transport on its fuel, against getting free transport for its product. There is no doubt which option a generator will chose, and this has been borne out in practice.

The AEMC notes that it is not aware that TUoS charges have been paid by generators in the NEM despite this being possible under the current Rules. That this has occurred is not attributable to the sense of the approach, but is entirely the fault of TNSPs who have elected and been able to pass all charges onto consumers instead.

By deciding that TUoS charges on generators are not appropriate and that the ability should be removed, the AEMC has decided that there should be no ability to provide locational signals to generation at all. This decision has not been tested against the NEL objective, other than to comment that it simplifies the Rules and provides improved certainty in the regulatory framework. Where is the consumer interest being assessed?

The decision then leaves only consumers exposed to locational signals, and the responsibility to pay for the locational decisions made by generators.

It also discriminates against generation which elects to locate near loads and incur transport costs for its fuel supply. Thus the economically efficient benefit of locating generation near to loads has been eliminated by the AEMC; this can

only be to the detriment of consumers who are required to pay for system losses, and all transmission costs other than connection costs.

3.3 Transmission pricing between users at different locations

As the AEMC has elected to remove any pricing signals for generators, then the only other users of the transmission system are consumers. Thus in all of the discussion relating to locational signals, the euphemism of the terms “network users” and “network customers” should be replaced with the term “consumers”.

The AEMC notes that all submissions (and one from a DNSP) desired that the Rules be specific in deciding how the costs should be allocated. Not surprisingly the TNSPs and most DNSPs want to set their own ways for cost allocation.
Despite consumers clearly stating their preferences the AEMC has decided that TNSPs should be free to set their own cost allocational approach – in direct opposition to the desires of consumers.

If consumers want there to be control over cost allocations, the AEMC needs to have powerful reasons to deny this, yet it does not provide any substance to its view that more freedom should be available to TNSPs.

3.4 Proposed principles

The MEU is supportive of the proposed principles, subject to the following observations.

1. The Rules must stipulate the numbers of days and the durations on those days against which the usage should be assessed. The AEMC assumes that TNSPs base the usage of the networks at peak times only. This is not the case (eg ElectraNet uses every half hour usage of the year. There has been debate as to which days are the peak days, and even on peak days the usage varies considerably.

   The Rules should stipulate the allocation must be based on a set number of peak usage days (the MEU suggests that this should be the 10 days with the highest regional demand recorded , and then further refined to be the usage on the six hours with the highest demand on those days. The year which provides the basis for basing the costs should be the 12 months closest to the time when the calculations are carried out. The MEU suggests that the year ending March 31 of the year when the calculations are being done is a feasible 12 month period.

   The benefits of setting the calculations on these days are multiple

   - It is the best reflection of the actual usage at the time,

- It provides signals for transmission investment, to generators identifying peak demand locations, and to consumers seeking new connections
- It allows self generators to schedule down times to minimise use of the network without incurring costs for the occasional use of the network
- It provides signals and potential cost savings to those consumers seeking to benefit from demand reduction at critical times

2. A critical issue in getting demand side responsiveness is to provide a cost saving to consumers that actually attempt to reduce congestion on the network and new augmentation of the network by judicious operating of their facilities. In this regard it must be accepted that consumers tend not to waste electricity, yet are prepared to minimise their use for a benefit at critical times. Unless there are actual benefits gained by consumers, there is little incentive to act to minimise demand when the system is under stress.

   A consumer which maximises the network when it has spare capacity but minimises it when there is a constraint must be actively rewarded.

3. The AEMC accepts the concept that new metering approaches might result in innovative ways of TNSPs developing new pricing methodologies. Because of this the AEMC is reluctant to stipulate actual pricing structures. This observation is absolutely ridiculous and indicates a total lack of awareness of the actuality of TNSP metering.

   TNSPs already have accurate metering of all their supply connections. Every consumer directly connected to the transmission network (including DNSPs) already has its usage measured in the most accurate way. It is metering in the distribution networks that does not have this feature, and even if they do (as large consumers are metered with modern and accurate meters) the tariffs set by the DNSPs totally negate the pricing signals provided by TNSPs.

4. The AEMC refers to the diversity that exists in the NEM. Yet the whole approach to the NEM is to create consistency. If the AEMC is to permit wide freedoms to the TNSPs, which remain essentially regionally based, we are reverting to the times when state owned electricity businesses were used by the governments of the day to promote state based programs to encourage consumers into the jurisdiction. It has already been decided that to perpetuate these approaches is not in the interests of consumers and that a national approach in the NEM is the goal.

   The AEMC has decided that it prefers to move backwards.

4. Principles for cost allocation and price structure

In its report the AEMC opines that

> "…the key differences between the Proposed Pricing Rule and the existing Rules in Part C are that the Commission has sought to:
>
> - move away from detailed cost allocation Rules and towards a principles-based regulatory framework; and
> - oblige the AER to develop guidelines in certain areas in order to enhance the certainty and clarity of the arrangements for TNSPs and their customers." (page 48)

The bulk of customers of TNSP services are DNSPs and generators; there are very few consumers directly connected to transmission networks. Thus the AEMC needs to provide direction to the AER as to how it will develop guidelines which are in the interests of consumers – almost all of whom are embedded in distribution networks.

The more flexibility the TNSPs are permitted, the less consistency there is across the NEM. Already there is a wide variety of pricing approaches across the various TNSPs; this variety results in different outcomes for consumers (and generators) in the different regions.

Thus rather than increasing the ability for TNSPs to have different pricing approaches, the AEMC should be stipulating exactly how this should be done to ensure consistency across the NEM and that all of the benefits and controls which are supposed to be incorporated can be provided.

An example of such variation between TNSPs, is that in SA there can be no benefit transferred to an embedded generator due to the structure of the pricing used and in Queensland, the benefit is half what it should be. Approaches used elsewhere also mute the benefit to embedded generators. There are many other examples of pricing approaches which eliminate or mute signals, or provide for unintended consequences.

In section 2.3 above there is discussion as to whether "causer" pays or "beneficiary" pays. The AEMC avers that "causer" pays provides a more stable and consistent allocation. At the same time the AEMC is allowing the TNSP to decide its own allocative approach by giving it more flexibility. This is in contradiction to the approach to allow more flexibility to TNSPs. It seems that where a benefit to consumers might arise (such as beneficiary pays), the AEMC has decided that this is not in the interests of consumers, but where additional flexibility for TNSPs might be to the detriment of consumers, this is to be supported.

The AEMC details it pricing principles as being

Proposed Principles

Step 1 (page 51)

The AARR for a given year is to be allocated as follows:

- in accordance with the *attributable cost share* for each pricing category of Prescribed Transmission Services;
- so that the same portion of AARR cannot be allocated more than once;
- where a portion of the AARR can be allocated to more than one pricing category of Prescribed Transmission Service, it is to be allocated according to the priority ordering outlined in the Rules.

Step 2 (pages 58 and 59)

The ASRR is to be allocated in accordance with the following principles:

- The ASRR allocated to Prescribed Exit or Entry Services is to be allocated to Transmission Customers or Generators (as the case may be) on the basis of the attributable connection point cost share of the individual Prescribed Exit or Entry Service provided to each Transmission Customer or Generator;
- The ASRR allocated to Prescribed TUoS Services is to be allocated to Transmission Customer connection points in the following manner:
    - a portion is to be allocated on the basis of the 'estimated proportionate use' of the relevant network assets by each of those Transmission Customers with CRNP or modified CRNP being two permitted means of making this estimation; and
    - the remainder is to be allocated by the application of a postage-stamped price;
- For the ASRR allocated to Prescribed TUoS Services, the shares of the locational and non-locational components must be either a 50% share allocated to each component or an alternative allocation based on a reasonable estimate of future network utilisation and the likely need for future transmission investment with the objective of providing more efficient locational price signals;
- The ASRR allocated to Common Transmission Services for Transmission Customers is to be allocated by the application of a postage-stamped price. 'Postage stamped' price refers to an identical unit price applied to connection points throughout the relevant region(s)

Step 3 (page 63)

For the recovery of the ASRR, a TNSP is to develop separate prices for each category of Prescribed Transmission Service in accordance with the following principles;

- prices for Prescribed Entry and Exit Services must be a fixed annual amount;
- prices for Common Transmission Service must be postage-stamped;
- prices to recover the location component of Prescribed TUoS Services ASRR must be based on levels of demand or consumption at times of greatest utilisation of the transmission network and for which network investment is most likely to be contemplated and not change by more than 2% per annum compared to the load-weighted average price for this component for the relevant region(s);
- prices to recover the non-locational component of Prescribed TUoS Services ASRR must also be postage-stamped.

Step 1 allocates costs to each user category

Step 1 allocates costs to each user category in proportion to the total cost, and requires that a cost cannot be allocated twice. Where a cost is shared between categories it is to be allocated in an AEMC defined priority approach. The AEMC has determined that entry/exit services incur the greatest share of costs, followed by TUoS services and then by common services.

It does not demonstrate why this priority should apply, other than the causer of the entry/exit can be more clearly identified than the causer of the TUoS service which is more clearly identifiable than the causer of the common service. Because the AEMC has a pathological dislike of allocating costs by reference to the assets involved in service provision as distinct the cost of a service, it needs to allocate priority in cost allocation where it is most easily identified who is the party where the costs can be allocated.

Allocation of entry and exit costs is to be charged on a fixed amount. This means there is no locational or time related usage signals which could be used to reflect the constraints inherent in an entry/exit point, to encourage user activity to minimise the constraint or prevent augmentation. Yet the AEMC has decided that because it is easier to identify who causes the need, that this element of cost allocation should carry =the greatest share of the cost allocation for a service.

This approach does not send the optimum signals to users to modify their usage to prevent constraints or augmentation.

The benefit of a shared network is all users get the benefit of sharing and that appropriate cost allocation, one class of user does not benefit at the expense of another.

The AEMC goes onto reflect that any under or over recovery of MAR should be allocated to the points where the under/over recovery occurred, rather than

adding it to the general charge. This will result in the need for rebalancing at each connection point, rather than an averaging approach. If it can be identified that the cost allocation approach has resulted in under/over recovery, then in principle this should be related to the point where the differential has occurred, and an adjustment made to the incorrect tariff which caused the differential.

Step 2 allocates costs between services.

Notwithstanding the new approach to negotiated transmission services the allocation of costs associated with each entry and exit service should apply equally regardless as to whether the entry/exit is “grandfathered” or is a new connection. Thus the allocative approach should be the same regardless as to the time the connection was made. Thus in the future there should be no pricing difference (as distinct from the cost derivation aspect ie negotiated rather than prescribed) between the two approaches, as this will provide consistency for all users, and will not permit any differentiation between existing assets and new assets.

Thus if a new connection is made to an existing (and therefore “grandfathered”) entry/exit, the pricing allocation must be made on the same basis for all parties connected at the point. Equally if two new users are connected to a new connection point (which would be “negotiated”) then the same allocative rules must be applied as if the new connection point is one which is paid for as a prescribed service. This maintains consistency for all users, and there is no incentive on the TNSP to force one outcome in preference to another.

Transmission use of services can be allocated on a $/MW or $/MWh or combination of the two. However the selection of the method and the ratio of recovery between the two can have significantly different outcomes for consumers (who are to be the only parties that pay TUoS).

Further the AEMC permits the TNSP to use the CRNP or modified CRNP approach to allocation of the TUoS to allocate proportionate use. 50% is stipulated to be postage stamped but this can be modified further by allocating a larger or lesser amount to postage stamp to encourage or dampen the signals for users to locate on elements which are under utilised.

The principle of allowing the TNSP the ability to provide signals is totally dependent on whether the TNSP cares to operate with this high degree of allocative approach. What is obvious is that allowing the TNSP to use

- $/MW and/or $/MWh or its selection of a ratio of these
- its decision on CRNP or modified CRNP
- an alternative (innovative) method
- its decision on what number of days it selects as the basis for allocation

- its decision as to whether to use a greater or lesser fixed proportion to encourage usage of under/over utilised assets

creates an extreme degree of variability in outcomes between TNSPs in different regions, leading to signals supposedly to be used by consumers (as they are the only ones to see TUoS signals) to identify where they might decide to locate or modify their usage, becoming totally incomparable and therefore useless. Useful signals are those which can be compared and this can only occur when the basis for developing signals is common across the NEM.

The AEMC approach provides the market power to TNSPs to decide where they want to force consumers to connect to the network, but there is almost no ability available to the AER to assess whether the principles are being followed appropriately. Thus any signalling by TNSPs will create doubts in the minds of consumers as to whether the signals are true or being distorted.

These signals will be seen by few consumers, and combined with the doubts, this effectively creates a barrier to connecting directly to the TNSP.

DNSPs distort and mute these signals to the vast majority of consumers who are effectively prevented for accessing the transmission network directly due to their load size and shape. The question then becomes one of what is the purpose of creating such extreme flexibility for TNSPs when the value of the cost allocations has such a limited use by effective comparability and applying to so few consumers.

Step 3 determines the way the charges will be set

The AEMC has decided that despite all of the flexibilities in step 2, the TNSP will be constrained in the way it sets the charges.

- Entry/exit charges must be a fixed daily/annual charge allocated in accordance with step 1

- General and common service charges must be postage stamped but can be demand or energy based

- TUoS locational must be a demand or energy based charge

Thus the primary concern for consumers is that by prescribing principles and not stipulating the approach, TNSPs have the ability to provide outcomes which might not meet the goals of providing signals through pricing, yet do meet the principles that the AEMC sets.

By enforcing some elements (such as in step 3) but providing freedoms in other aspects (such as in step 2) the AEMC has created a monster. It enables the TNSP to bias the network signals to suit its own agenda (such as providing signals to the regulator to incorporate greater capex in a reset), yet then creates

an approach which stipulates the form the charges are to take.

This creates a total lack of consistency across the NEM between every TNSP. This in turn prevents consumers (as they are the only party which is to react to price signals) from being able to rationally compare the true costs that should apply from development of transmission pricing from a revenue cap.

Section 7 below provides more detail as to why MEU is of the view that the pricing approach used must be stipulated.

Other observations

Consumers expect that network costs should be allocated as near as is reasonably possible to reflect the costs associated with the parties using the assets. The AEMC approach has made this even more unlikely in the way the changes have been made.

Where assets are used exclusively by clearly identifiable users (generators and/or consumers) then these should be allocated to those who are the only beneficiaries of the assets. Where there are a number of beneficiaries, whether generator and/or consumer, then each party should be required to pay for the assets it needs. To allocate all costs to consumers will encourage generators to identify the least cost to themselves (and in the process any advantage they can get over their competitors) even if this means consumers pay unnecessary and additional costs.

The AEMC has totally overlooked the need to allocate costs on a forward looking basis. If signals are to be useful for future investment (by the TNSP, a generator or consumer) then the charges should be based as close as can be, to future costs. NEMMCo has been required to carryout this approach in the setting of system losses (a signal to generators and consumers) so the cost setting by TNSPs should also be based on a forward looking basis. Currently the costing is based on the historic costs incurred by TNSPs, influenced by the usage of the network incurred up to two years previously. By the time new pricing is developed, the basis for the cost allocation will be up to three years old.

The AEMC has clearly failed to understand what it is that consumers need in pricing signals to influence their decisions for future investment. In fact the AEMC has only considered the impact of the pricing approach as it impacts on TNSPs and perhaps generators.

5. Procedural framework

5.1 Reviewing cost allocations

The AER is required to set guidelines for a TNSP to develop its pricing allocation approach. The proposed Rules are so open that any guidelines that the AER develops will have to be equally wide as the TNSP is permitted significant flexibility in its approach.

As part of the revenue reset process, the AER is required to seek views of Interested Parties of the pricing approach proposed by the TNSP. It would be expected that in this review consumers and generators (being the prime users of the transmission networks) may have matters of concern which they raise.

However, the AEMC requires the AER to approve the TNSP pricing approach unless the AER is of the view that it does not meet the requirements of the Rules. The Rules now provide TNSPs with significant flexibility, so there may be outcomes which do not comply with the intent of the price setting and the signals that this price setting is intended to provide.

The AER is now not prevented from not approving the pricing approach proposed by a TNSP even if the AER is:

- convinced that the TNSP is not complying with the fundamental requirement that the outcome should be cost reflective
- of the view that the pricing does not provide appropriate signals
- convinced that one class of user is subsidising another class of user
- considers that intended benefits are not being provided by the approach
- concerned that the pricing is intended to bias an outcome of the revenue review.

This is totally unacceptable but is permitted by the AEMC because it has not ensured that the pricing principles and direction incorporated in the Rules adequately constrains a TNSP from using the flexibility included in the Rules to advantage itself at the expense of users, or to use its preferred approach to force an outcome that would benefit one class of user at the expense of another.

5.2 Definitional issues – connection points

The Rules require that the postage stamped (general and common service) charges should be applied at the *connection point*.

The issue is - where is the connection point for the application of these costs? Is it at the consumer connection point? Is it the connection point between TNSP

and DNSP? What happens if there is generation also connected? What happens if the DNSP has both generation and consumption in its demand?

Appendix 1 is an attempt to highlight the importance of this issue. The proposed pricing Rules totally ignore the issue that the connection point varies between the various uses made of what is apparently a straight forward issue.

Appendix 1 provides a commentary on the actuality of how general and common service costs should be allocated, and uses an actual example as to how the current interpretation operates.

The MEU concludes that in order for there to be adequate signalling there is a need to define the connection point for the allocation of the general and common service charges to be at the connection point between the entry/exit point and the shared network. The benefits of this approach are:-

1. It recognises the actuality of what really occurs in the flow of electricity.
2. It provides some relief from the costs incurred by consumers from the absurdity of the assumption that all electricity flows to the regional node and then back to the consumer
3. It provides an incentive for consumption to locate near supply or to encourage consumption to seek a supply to it.
4. It creates an environment where demand side responsiveness is encouraged
5. It clearly differentiates between what is the shared network and what are entry/exit assets
6. It allocates costs directly associated with the operation and use of shared assets to those making greatest use of those assets

6. Prudent discounts

The MEU supports the principle of permitting TNSPs to provide discounts to customers that might otherwise bypass the system. In practice this principle has limited use as the only option available to a customer is that (as a consumer) it elects to close down operation or connect directly to a generator. Generators (especially large generators must connect to the transmission network in order to sell its product.

Bypass and prudent discounts have more application in relation to DNSPs.

Notwithstanding the acceptance of the principle the MEU points to the anomaly that exists in the second draft Rule and the application of prudent discounts. Under the old Rules, the TNSP was exposed to optimisation of its assets. If a customer ceased using its transmission network then the TNSP was liable to a loss of revenue due to the stranded assets being excised from the RAB. The second draft Rule permits stranded assets to remain in the RAB (provided they are valued at less than $20m or the assets are used for connection - negotiated and/or contestable - services), as there is now a greatly reduced ability for optimisation of the asset base to reflect the actuality of usage.

In the case of consumers the risk of optimisation will only apply if the assets are

- currently part of the assets required for the provision of the prescribed service
- used by just one consumer, and
- valued at more than $20m

There are very few assets in the NEM where the combination of all three of these conditions will apply to a consumer.

In the case of a generator these conditions are more likely to apply, yet in practical terms a generator is most unlikely to attempt a bypass because very few consumers have the ability to absorb the entire output of a generator sized to meet these conditions. Even if this was to occur, the adjacent consumer would still seek backup supplies and there would be another user of the assets involved, preventing the Rule from applying.

The implication of this assessment is that there is now little pressure on a TNSP to negotiate a prudent discount, because the loss of a customer and the stranding of assets do not impinge on a TNSP protected as it is by a revenue cap and no future optimisation.

7. TUoS rebates to embedded generators

Rebates to embedded generation provide an interesting issue.

In appendix 2, the issue of allocation of entry and exit costs are discussed in some detail using an actual example to demonstrate the issues. This is but one of the concerns that need to be addressed.

The other major concern is that the whole concept of TUoS rebates to embedded generators was to encourage the incidence of generation locating closer to consumption and to offset (at least partly) the costs an embedded generator incurs in transporting its fuel to the point of power consumption where a large generator gets free transport of its product to the point of consumption.

When the issue is examined in depth there are a number of circumstances where the flexibility accorded to TNSPs obviates the incentives intended for embedded generation.

There are four options for reducing demand on the shared network

- New generation connected to the TNSP
- New embedded generation connected to the DNSP
- Self generation by a consumer
- Demand reduction by a consumer at critical times for the network

There are four approaches used by TNSPs in relation to recovery of TUoS charges

- On a demand only basis (as used by ElectraNet and Transend)
- Part demand, part consumption basis (as used by PowerLink)
- Part demand, part time related consumption basis (as used by TransGrid)
- Time related (summer) demand basis only (as used by VENCorp)

There is a fifth approach available to TNSPs but one not currently used, which is where the TUoS is entirely consumption related.

This variable approach has resulted in the embedded generation incentive being lost or muted by the flexibility granted to TNSPs to determine their own cost recovery approach.

The following table illustrates the outcomes of each approach

	SA, Tas	Qld	NSW	Vic	Consumption only
Gen to TNSP	NB + pay entry costs	NB + pay entry costs	NB + pay entry costs	NB + pay entry costs	NB + pay entry costs
Embedded gen	NB, no entry cost	Partial benefit,	Partial benefit,	Partial benefit if operating in summer	Full benefit,
Self gen	NB	Partial benefit	Partial benefit	Partial benefit if operating in summer	Full benefit
Demand reduction	NB	Minimal benefit	Minimal benefit	Partial benefit if reduction applies all summer	NB

NB = no benefit available for the response offered

The reason that there is a muted or no benefit under all pricing options provided by the TNSP is that the demand reduction has to apply continuously and no generator can operates in this manner – it must shut down for short periods of time for regular maintenance and shut down can and do occur for unscheduled reasons. Thus for a benefit to apply for a demand reduction, the reduction has to apply at all times for the year.

Further a scheduled generator (ie one which can be scheduled to operate at specific times when the network is under stress) gets no greater benefit from operating to one which is unscheduled (such as a wind farm) despite the obvious network support the scheduled generator provides.

Permitting the TNSP to select its own pricing approach therefore has the ability for the TNSP to prevent a benefit applying from any demand side response or new generation. It is a direct result of this ability of TNSPs to mute or eliminate signals through its pricing approach that has prevented a large number of demand side responses, and locationally based generation concepts to proceed.

As noted in section 4 above, MEU sees that allowing the TNSP the freedom to set its own pricing approach has a number of lost opportunities and negative outcomes:-

- There is variability across the NEM so that there is no consistency for those seeking to develop and install a demand side response

- There is no improved benefit for a scheduled generator (independent or self generating) or consumer for the greater reliability provided and ability to "peak lop" at critical times compared to unscheduled generation.

- Cogeneration (concurrent production of steam and power) gets no benefit yet must be located near to the point of consumption as steam cannot be transported long distances, but which provides a reliable source of power and the ability to schedule its down time to suit network needs.

- There is no signal for generation to operate or for demand to reduce at critical times for the network

- There is a muted or no benefit for generation to locate near consumption.

- Selection of the peak system days on which costs are allocated could be modified to reflect the actual times of the day when the network is most under stress. This would enable demand side responses and scheduled generators to be operating when the system most needs the support and then receive a benefit from providing this support.

The MEU considers that the AEMC has entirely overlooked the potential for its incentive programs for demand or generation to locate where they might support the network, and by the approach taken, are handing to the TNSPs any ability there might be to ensure that the incentives are actually available.

Further, the DNSPs themselves have the ability to further disadvantage demand side responsiveness through their pricing approaches.

The AEMC needs to investigate this whole issue in much more depth than is apparent from the work underpinning the proposed draft Rule on pricing.

8. Inter-regional TUoS

It is accepted that the issue of payments for inter-regional transfers is complex. There is no incentive on a TNSP to augment an interconnector, and to maximise the value of augmentation both of the TNSPs involved need to act and augment in both regions. It is pointless for an inter-regional augmentation to be one sided.

The Energy Reform Implementation Group (ERIG) is required to address a number of concerns relating to transmission and inter-regional TUoS allocation is but one element. ERIG has implied that it has insufficient time before it reports to be able to solve many of the issues it is required to address and suggests that it might recommend that time consuming issues be addressed by way of a new body to be established. This appears to be a way of deferring resolution of issues which are identified as being difficult.

The AEMC has decided that it considers the matter too difficult for it to resolve without further direction from MCE. To just refer to the issue is insufficient. The AEMC must include in its referral some bases that it considers essential to underpin the economic efficient outcome that it seeks.

The MEU would suggest that as a minimum the AEMC refers the matter to MCE to be addressed by a continuing entity that AEMC or ERIG might recommend, such as a national planning and implementation entity, charged with responsibility of converting the current arrangement of weakly inter-connected regions into a truly national power supply system.

The AEMC should identify that

- The allocation of costs and benefits do not recognise the contributions made by the various TNSPs and the consumers that pay for the TNSP costs – in fact the exporting TNSP levies costs on its consumers for a benefit of consumers in another region
- There is no incentive for TNSPs to negotiate with its adjacent TNSP for interconnection charges as the exporting TNSP can levy its customers for these costs
- There is no incentive on TNSPs to negotiate to augment interconnection – in fact there is a disincentive as a TNSP is incentivised to augment its own region so that it can obtain bonuses for exceeding performance standards, providing no reason to spend on inter-regional augmentation
-

The AEMC advises that the use of a multi-region T-price model if implemented would address concerns that were held by the ACCC of a NECA proposal. The AEMC points out that for this approach to be successful would require the TNSPs to cooperate. The implication of this statement (and the subsequent decision by AEMC to pass the issue

to MCE) implies that the AEMC is not certain that it can modify the Rules to require this degree of cooperation between TNSPs. This is concerning of itself.

The MEU accepts that the AEMC needs to refer this issue to the MCE. The MEU has already made representations to ERIG that there is a requirement for a national transmission planning and implementation entity which must address the NEM as a whole and identify the ways and means to incentivise augmentation of interconnection and to ensure that efficient economic principles underpin the cost allocation of inter-regional flows.

9. Pricing for negotiated transmission services

In its responses to the draft revenue Rules, the MEU has made known its views regarding the principles of using commercial arbitration in relation to the revenue Rules.

The MEU remains of the view that a TNSP has monopoly power in negotiations with customers of the transmission networks, and this is in part imputed power as there is in many cases no option but to use the regional TNSP as there is no practical alternative. Secondly the MEU remains of the view that there are issues relating to the assessment of market power which are beyond the ability of a commercial arbitrator to address adequately. The MEU therefore continues to be of the view that the AER is best suited to be the arbitrator between the TNSP and a customer, even if this requires the AER to be reimbursed for its costs in acting as the arbitrator.

With this caveat, the MEU supports the widening of the ability of a consumer (a non Participant) to access an independent review of those costs and conditions that a TNSP might wish to impose on a customer for the provision of negotiated services.

Appendix 1

The Connection Point
Where to levy the General and Common Service charge?

Currently a consumer is required to reimburse TNSP the costs of the G&CS charges at the consumer metering point.

If there are additional loads and generators added at the TNSP connection point (ie to the substation), clarity is needed to identify where the connection point for allocation of the G&CS charges should be levied.

As far as the shared network is concerned, the connection point is the single point where the cumulative supply/load is seen. This means that the connection point is where the entry/exit assets interface with the shared network

2. The background

A TNSP revenue is set as a regulated revenue cap. This means that the TNSPreceives a fixed revenue each year. Any over or under recovery in one year is adjusted in the following year. The allocation of costs to specific connection points is based on a methodology which is published by the TNSP and approved by the ACCC/AER. The TNSP publishes its Transmission Price Schedule late each financial year for the following financial year.

TNSP includes in its methodology that it will allocate its revenue to come from five specific charges – an entry charge for generators, an exit charge for consumers, a use-of-system charge from consumers reflecting the use on a locational basis of the shared assets by each consumer, a common service charge reflecting the costs incurred by TNSP which are not locationally dependent, and a general charge which includes all costs not otherwise covered. The common general and common service (G&CS) charges are allocated on a “postage stamp” basis across the region.

In the methodology for allocation of costs a TNSP advises that in relation to the general and common service charges, they are levied based on the conditions at every *exit point.* For example the following is the way ElectraNet advises[3]:-

8.2 TUOS General Prices

[3] ElectraNet SA Transmission Pricing methodology dated 15 May 2003

The method of recovery of Customer TUOS General charges (the "postage stamped" component of shared network costs) is specified in the Code. Two TUOS General prices are calculated, one based on contract demand and the other based on historical energy usage. These two prices are calculated in such a way that the customer exit point with median load factor would be indifferent to which price applies. The TUOS General prices are the same for each exit point on ElectraNet's transmission network.

Customers are charged at each exit point or group of exit points on the basis of **the price that results in the lower estimated recovery** from TUOS General charges at that point. [emphasis added]

It is important to note that the Code does not allow the capacity price to apply at an exit point unless the relevant customers connection agreement or other enforceable instrument governing the terms of *connection* of the customer:

- nominates a fixed maximum demand for that *connection point*; and

- specifies substantial penalties for exceeding the nominated fixed maximum demand

Where these conditions are met, ElectraNet automatically applies the price that results in the lowest charge to the customer at each exit point.

9. Common Service Charges and Prices

The method of recovery of Common Service charges is specified in the Code and is identical to that described for TUOS General charges …

Thus, providing there is a fixed maximum demand at the connection point and there are penalties for exceeding the nominated fixed demand, then TNSP will apply the amounts charged for General and Common Services at a connection point, at the lesser of that calculated using the demand in kW at the connection point and that calculated using the usage in kWh at the connection point.

In practice, over time as new loads and generators are added to an entry/exit point, it will be observed that whilst the maximum demand at the substation (s/s) might not changed greatly, the net volume of electricity flowing to the s/s from other generation (which must use the shared assets to deliver power to the s/s) has reduced dramatically.

3. The Issue - where is the connection point for calculating G&CS charges?

There is one fundamental issue that need to be resolved so that the correct calculation of G&CS charges can be carried out. It is stated that charges are costed at the *exit point* of the transmission network. Thus the location of the *exit point* from the transmission network becomes critical.

On initial examination, the connection point to the shared network could be seen as being the interface between the assets owned by the party connecting to the transmission network, and the assets owned by the TNSP. In fact the Rules state that:-

> "A *connection point* is the agreed point of *supply* established between *Network Service Provider*(s) and another *Registered Participant, Non-Registered Customer* or *franchise customer*."[4]

This implies that the connection point is at the interface between TNSP assets and assets owned by other parties.

However for the purposes of the transmission network this is not correct. The transmission connection point is where the entry and exit assets interface with the transmission line because the also Rules[5] state that:-

> "An *entry service* is a service provided to serve a *Generator* or group of *Generators* at a single *connection point* and an *exit service* is a service provided to serve a *Transmission* or *Distribution Customer* or group of *Transmission* or *Distribution Customers* at a **single *connection point*".** [emphasis added]

It is important to note the reference to a single connection point, as the exit and entry services when combined draw together generators and consumers to **a single connection point** of the transmission network. In the context of a substation, the connection point is the point where there is a service to connect to the transmission line.

The logic behind this view is that entry and exit services are totally separate from the network services. Unless customers supply or take power at the transmission line voltage, they are required to pay for the provision of step up or step down transformation to match their needs. This transformation is costed as an entry or exit charge if these services are provided by the TNSP.

Under the second draft Rules, unless a customer takes supply at the transmission line voltage then it will be required to pay for the cost of step up or step down transformation as a connection service which will be partly negotiated and partly contestable – this connection service (and cost) is certainly not part of

[4] See appendix 1
[5] Appendix 1 provides a number of relevant extracts form the Rules

the prescribed services and is to be a negotiated service. Implicitly this means that the shared network comprises those assets which deliver power at the transmission voltage selected by the TNSP for service delivery adjacent to the connection location.

This view is reinforced by the deliberations of the AEMC definitional working group[6]. Under the Rules, a new connection must be at the transmission voltage because if the customer requires a different voltage for its connection, it is accepted that the customer must provide all of the assets needed to match the customer voltage to the transmission voltage[7]. Except for the very specific tie-in work to the transmission system, this additional transformation has been referred to as a *negotiated service* or even a *contestable service*. The very specific tie-in connection works for connecting to the TNSP assets which only the transmission NSP can provide, is referred to as a *negotiable service*. In existing systems, the service required to connect a customer at the transmission voltage is provided by the TNSP as an *entry or exit service*.

This approach clearly supports the view that the connection point to the TNSP shared services is at the transmission line where power is received and then on-forwarded to other locations.

NEMMCo allocates its loss factors at each substation[8] regardless of who is connected at the substation. It identifies the shape of the demand and consumption at the point of connection and develops loss factors for each substation based on the characteristics at the connection point. This clearly implies that NEMMCo views the connection point for allocation of transmission losses to be at the point of connection **between the network transmission line and the substation**.

4. An Example - The Snuggery substation situation

Snuggery substation is located in the lower south east of South Australia, near Mount Gambier. At Snuggery, ElectraNet provides access to power from its transmission line at 132 kV.

At Snuggery there are a number of customers connected.

- The 11 KV Synergen gas turbines are connected via step up transformers.
- Lake Bonney wind farm is connected at 132 kV.
- Industrial load is connected via step down transformers.

[6] Appendix 2 provides a number of relevant conclusions developed by this group
[7] See appendix 1 for Rule clause 6.6.2 reference to capital contributions.
[8] Where it can identify them, and it is requested to do so, it allocates loss factors to specific users at a substation, but generally it does not attempt to identify these specific users.

- Residential and rural load is connected via step down transformers.
- Canunda wind farm is connected via step up transformers.

The Snuggery s/s is a connection point which is part of a looped transmission supply circuit owned by ElectraNet, with Snuggery being connected to Blanche substation to the south and Keith substation to the north. Power to and from the NEM is available to the five customer groups through the Snuggery bus bars which physically connect the Snuggery-Keith and Snuggery-Blanche transmission lines to each other.

Despite there being a number of generation businesses and a number of different classes of consumers connected to the network at Snuggery, as a TNSP, ElectraNet must ensure that it maintains competitive neutrality between all generators and all consumers connected at Snuggery. This can only be achieved by ElectraNet if all entry and exit costs and charges which it levies on its customers are referred back to a single point. For the purposes of this competitive neutrality, ElectraNet must use the point of connection to the network as its reference point. This then allows ElectraNet to provide cost reflective entry and exit costs to those customers connected at Snuggery s/s.

Snuggery s/s is effectively a single connection point to the network, with individual metering on the two connecting 132 kV transmission lines. The only element of Snuggery s/s which is part of the shared network are the busbars connecting the two in-feed transmission lines, and it is at these busbars which is the *connection point* to the network. In broad terms, except for the interconnecting busbars, the whole of Snuggery s/s could be removed without impacting the rest of the network.

Between them, all of the connected customers pay entry and exit charges for the provision of the substation and for **the single connection point** they require to have into the transmission network.

G&CS are an element of the cost of providing the prescribed services for the shared network. Thus G&CS must be calculated at the point of connection between the prescribed service and entry and exit services. They should therefore be calculated on the actual demand and usage as measured at **the single connection point** with the network which comprises the prescribed services.

G&CS charges are not levied on generators, but entry (connection) services (including provision of transformers) are levied on generators. This supports the view that G&CS charges are related to the connection point with the prescribed service network, ie at the connection of the network and the substation.

Appendix 1

Excerpts and Definitions accessed from Electricity Rules

connect, connected, connection

To form a physical link to or through a *transmission network* or *distribution network*.

connection agreement

An agreement between a *Network Service Provider* and a *Registered Participant* or other person by which the *Registered Participant* or other person is *connected* to the *Network Service Provider's transmission* or *distribution network* and/or receives *transmission services* or *distribution services*. In some *participating jurisdictions*, the *Registered Participant* or other person may have one *connection agreement* with a *Network Service Provider* for *connection services* and another agreement with a different *Network Service Provider* for *network services* provided by the *transmission network*.

connection assets

Those components of a *transmission or distribution system* which are used to provide *connection services*.

connection point

The agreed point of *supply* established between *Network Service Provider*(s) and another *Registered Participant, Non-Registered Customer* or *franchise customer*.

connection service

An *entry service* (being a service provided to serve a *Generator* or group of *Generators* at a single *connection point*) or an *exit service* (being a service provided to serve a *Transmission* or *Distribution Customer* or group of *Transmission* or *Distribution Customers* at a single *connection point).*

contestable

Other than in clauses 6.2.4(f) and 9.8.4C(a1), in relation to *transmission services* or *distribution services,* a service which is permitted by the laws of the relevant *participating jurisdiction* to be provided by more than one *Network Service Provider* as a contestable service or on a competitive basis.

Customer transmission use of system, Customer transmission use of system service

A service provided to a *Transmission Customer* for use of the *transmission network* for the conveyance of electricity that can be reasonably allocated to a *Network User* on a locational basis, but does not include *Generator transmission use of system services*.

entry service

A service provided to serve a *Generator* or group of *Generators* at a single *connection point*.

entry cost

For each *connection point*, the amount of the *annual revenue requirement* for all individual assets classified as *entry service* assets which provide *entry service* for the *connection point*.

exit service

A service provided to serve a *Transmission* or *Distribution Customer* or group of *Transmission* or *Distribution Customers* at a single *connection point.*

entry charge

The charge payable by a *Generator* to a *Network Service Provider* for *entry service* at a *connection point*.

exit cost

For each *connection point* the amount of the *annual revenue requirement* for all individual assets classified as *exit service* assets which provide *exit service* for the *connection point*.

exit charge

The charge payable by a *Transmission Customer* or *Distribution Customer* to a *Transmission Network Service Provider* or a *Distribution Network Service Provider* respectively for *exit service* at a *connection point*.

negotiable service

1. In relation to *transmission services* means:

(a) an *excluded transmission service*;

(b) that part of a *prescribed transmission service* which is to be provided to a standard which is higher or lower than any standard:

(1) described in schedule 5.1;

(2) outlined in the standards published in accordance with clause 6.5.7(b); or

(3) required by any regulatory regime administered by the *AER*;

(c) *connection services, use of system services* and *generator access* provided to a *Generator*, for which charges are negotiated under clause 5.5;

(d) *connection services*, *use of system services* and *market network service provider access* provided to a *Market Network Service Provider*, for which charges are negotiated under clause 5.5A; or

(e) that part of a *prescribed transmission service* which is to be provided at reduced *Customer TUOS general charges* or reduced *common service charges* (the "*agreed reduced charges*") under clause 6.5.8,

and does not include a *contestable* service.

2. In relation to *distribution services* means:

(a) an *excluded distribution service*;

(b) that part of a *prescribed distribution service* which is to be provided to a standard which is higher or lower than any standard:

(1) described in schedule 5.1;

(2) outlined in the standards published in accordance with 6.14.5(a)(3); or

(3) required by any regulatory regime administered by the *AER* or a *Jurisdictional Regulator* (as appropriate);

(c) *connection services, use of system services* and *generator access* provided to a *Generator*, for which charges are negotiated under clause 5.5; or

(d) *connection services*, *use of system services* and *market network service provider access* provided to a *Market Network Service Provider*, for which charges are negotiated under clause 5.5A,

and does not include a *contestable* service.

network connection

The formation of a physical link between the *facilities* of two *Registered Participants* or a *Registered Participant* and a customer being a *connection* to a *transmission* or *distribution network* via *connection assets.*

network coupling point

The point at which *connection assets* join a *distribution network*, used to identify the *distribution service* price payable by a *Customer*, more fully described in schedule 6.6.

switchyard

The *connection point* of *a generating unit* into the *network*, generally involving the ability to *connect* the *generating unit* to one or more outgoing *network* circuits.

transmission service

The services provided by a *transmission system* which are associated with the conveyance of electricity through the *transmission system*. *Transmission services* include *entry services, transmission use of system service*s and *exit services* which are provided by part of a *transmission system.*

transmission system

A *transmission network*, together with the *connection assets* associated with the *transmission network*, which is connected to another *transmission or distribution system*.

6.3.1 Determining annual revenue requirement for classes of transmission service

(a) The classes of *transmission services* are:

(1) *entry service* which includes those services provided to serve a *Generator* or group of *Generators* at a single *connection point*;

(2) *exit service* which includes those services provided to serve a *Transmission Customer* or group of *Transmission Customers* at a single *connection point*;

Schedule 6.2

2. Entry and Exit Assets

The *entry* and *exit asset* costs are recovered from the *Transmission Network Users* who benefit from them and requires no complex analysis to determine the sharing.

A "shallow *connection asset*" policy is to be adopted in which only those assets (including individual assets within a *substation*) which provide *supply* to only those *Transmission Network Users connected* at the *connection point* are included. This is a simple definition, which avoids the difficulties that can be caused by a "deeper *connection asset*" policy where assets may change from *connection assets* to becoming part of the *transmission network*.

Consequently *entry* and *exit assets* include only *substation* assets, including *transformers*, which are used to supply *load* at the interface between *Transmission Network Users* and the *transmission network*.

However the *Transmission Network Service Provider* may require the *Transmission Network User* to meet all the *network* charges for radial *transmission lines*.

Transmission lines connecting *Generators* to the *Transmission Network Service Provider's* assets may be assets of the *Generator*. Where such are owned by the *Transmission Network Service Provider* they are to be treated as *connection assets*.

Some *substation* establishment and building costs are to be recovered through entry and exit charges. Treatment of these costs is covered in the following section.

6.6.2 Capital contribution or prepayment for a specific asset

Where the *Transmission Network Service Provider* is required to construct specific assets to provide *connection service* and/or *transmission use of system service* to a *Generator*, *Transmission Customer* or another person having a *connection point* on the *transmission network*, the *Transmission Network Service Provider* may require that person to make a capital contribution or prepayment for all or part of the cost of the new assets installed and any contribution made must be taken into account in the determination of *transmission service* prices applicable to that person.

Appendix 2

AEMC Definitional Working Group conclusions

Access to the shared network

A customer can only connect to the shared network if it complies with the requirements of Schedules 5.2 and 5.3. The TNSP must operate its network to comply with Schedules 5.1 and 5.1a.

Negotiated services at a connection point

A customer can request a TNSP to allow a connection to the Shared Transmission Network but, due to the constraints within the Rules which prevent negotiation on certain aspects of connection, a customer is practically constrained only to be entitled to negotiate with the TNSP on aspects of voltage, level of redundancy and capacity of the connection.

Connection to the shared network

A new connection to the network will be made to the existing shared network. The customer can only stipulate its requirements in relation to voltage, capacity and degree of redundancy.

The implication of this requirement is that there is a single voltage at which the TNSP will allow a connection (this can only be the line voltage) and any additional transformation will be a negotiated or contestable service, ie does not comprise part of the shared network.

Appendix 2

Allocation of Entry/exit Charges
Embedded generators and consumers

The current arrangements for allocating costs for embedded generation provide some confusion, and even some unexpected outcomes, especially where the embedded generator is large compared to typical loads.

Further there is confusion as to whether a contestable service provided by a NSP has the same standing in relation to the identification of a *connection point* as does a *negotiated service* or a *prescribed service.*

1. An example – Snuggery substation

Currently at Snuggery s/s, there are a number of customers connected to ElectraNet's 132 kV transmission system. These are:-

- Lake Bonney PS of ~80 MW, connected at 132 kV
- Synergen PS of ~80 MW, connected via step up transformers at Snuggery
- ETSA, connected via step down transformers, supporting
    - Residential and rural consumers of ~15 MW off TX #1
    - Industrial consumers of ~42 MW off TXs #2, 3 and 4
    - Canunda PS of ~44 MW off TXs #2, 3 and 4.

Both Lake Bonney and Synergen power stations pay entry services to ElectraNet for the connection between their generation assets and the 132 kV bus tie to the shared network. Synergen is charged an entry service for delivery of its power to the transmission network[9]. Lake Bonney power station has its own step up substation remote from Snuggery and delivers its electricity at Snuggery at 132 kV. Lake Bonney has to pay for the step up transformers and the delivery power lines to Snuggery, as well as for the unique tie in costs at Snuggery s/s.

ETSA is a net importer of power at Snuggery and therefore pays to ElectraNet an exit charge for use of the exit service provided by ElectraNet. The exit charge is calculated as a daily charge (unrelated to volume of power transferred) for use of the step down transformers #1-4. ETSA allocates all of the exit charge costs to the consumers connected to these transformers.

Canunda power station is connected to the ETSA side of the four ElectraNet 132/33 kV step down transformers and ETSA does not levy any cost to Canunda for use of these entry assets, even though Canunda needs these to gain access

[9] See appendix 1 page 2 showing that Synergen pays an entry charge

to the 132 kV transmission system. The embedded generator (Canunda) has a rated output at some 44 MW, larger than any single consumer and therefore requires 2x25 MVA transformers to deliver its product to market. A third 25 MVA transformer provides N-1 redundancy to Canunda as it does to the industrial consumers. This transformer also provided N-1 back up for the residential and rural consumers.

Thus in the absence of demand from industrial consumers, Canunda requires the three transformers as an entry service to the NEM, just as industrial consumers, in the absence of Canunda output, require the same three transformers as an exit service from the NEM.

The embedded generator is not charged an entry charge, even though its competitors are required to do so as an entry charge is payable by all generators who are connected to the transmission network, with higher charges applying to those who are connected at lower voltages than the transmission voltage. Synergen at Snuggery is one such generator[10].

Canunda is not a "reliable" power station and cannot be scheduled for dispatch and therefore the benefits that might be provided by a "dispatchable" generator are not provided.

2. Reasons given for this approach

The Rules provide an embedded generator with the benefits which accrue due to a reduction in transmission charges on a "with and without" test. ETSA states that in the absence of Canunda, industrial consumers would be liable for the whole of the exit charge. By connecting Canunda on the same bus, ETSA advises that it has not disadvantaged consumers, and has thereby complied with the "with and without" test.

ETSA further stated that it has an agreement with Canunda to provide a 33 kV connection between Canunda PS and Snuggery, and that the entry charges it levies on Canunda relate to those assets at the interface between the Canunda owned assets and the ETSA-provided augmentation between Canunda and Snuggery.

3. What the Rules say

3.1 The single market objective (SMO)

The National Electricity Law states the single market objective is:

[10] See appendix 1

> *"The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long-term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system."*

The SMO makes no reference to any other party than consumers. Thus any decision made in relation to the Rules must be made in context of the long term interests of consumers.

This means that where there is any doubt as to the meaning of the Rules as written, those inferences which might be drawn but which run counter to the "long term interests of consumers" must be assessed in light of the impact on consumers, and not to any other party.

Thus if DNSP has assumed that a Rule can be extended or inferred, and the outcome of that extension or inference is not in the long term interests of consumers, then this extension or inference of the Rule is not legitimate.

DNSP has interpreted the "with and without" test as including charges for entry services. As discussed later in section 4.5, entry services are not specifically included in the "with and without" test. Therefore, under the SMO consideration, DNSP is not correct in interpolating an assumption that Canunda should not be required to pay for the pass through of a transmission entry charge.

This particularly applies in the case of Canunda, as Canunda is not a "reliable" generator and therefore does not provide added security of supply to consumers or the ability to avoid network augmentations.

The benefits that Canunda does provide as a supplier of renewable energy are not matters which are the concern of the National Electricity Law or the Rules.

3.2 Connection charges

Rule clauses 5.3.6(h) and (i) require DNSP to define the basis for the charges for connection in accordance with Chapter 6, and that a generator must conform to the requirements of clause 5.5.

The augmentation from Snuggery to Canunda by ETSA is not a regulated service; it is a dedicated service that is provided as a contestable service, and in theory could be provided by anyone. Entry charges apply for **entry to the shared network;** the provision of the shared network is a regulated service.

ETSA has assumed that its dedicated augmentation to Canunda, allows it to regard the augmentation as part of the shared network in relation to the assessment of entry charges. This assumption is incorrect.

The ETSA provided connection to Canunda is a contestable service and it is not (and nor should it be) part of the shared network. The entry service which ETSA provides is connection on the 33 kV busbars at Snuggery – this is the entry point of the contestable service to the shared services and therefore ETSA must calculate its entry charges for Canunda at this point, and not at the connection between Canunda and the contestable service augmentation provided by ETSA.

When this view is read in conjunction with the SMO, there can be no doubt that the entry service provided by ETSA **as owner of the shared network** is at the Snuggery busbars, which is also the entry point to the transmission system. ETSA has confused its role as a supplier of a contestable service with its role as the owner of the shared network.

ETSA should require Canunda to provide a contribution to the entry/exit costs ETSA is charged by ElectraNet for access to the shared transmission network.

3.3 Generator to pay reasonable costs incurred by DNSP

Amongst other requirements such the generator is required to pay for the use of connection assets, use of system services, and compensation for being constrained off or on, Rule clause 5.5(f) (4) requires the generator to pay for costs reasonably incurred by the NSP in providing generator access. Generator access is defined as access to the transmission system and/or the distribution system[11].

For the Canunda augmentation, the access point of the distribution system is the same as the access point to the transmission system, being the 33 kV busbars at Snuggery.

Further, whilst in some distribution systems, the output of an embedded generator might be fully absorbed by consumers in the distribution network, in the case of Canunda, access is required to the transmission network as there is insufficient certain demand at all times from Snuggery connected consumers, to consistently take all of Canunda output. Canunda has a rated 44 MW output and when industrial consumers reduce demand, there is insufficient other consumption connected at Snuggery to absorb all of Canunda output.

The costs that the embedded generator causes DNSP to incur for delivery of power to the transmission system must be inclusive of entry costs to the TNSP

[11] See appendix 2

system. DNSP should be required to allocate to the embedded generator the reasonable costs DNSP incurs from TNSP for providing an access service to the transmission network.

ElectraNet provides access to and from its network, but correctly lists the assets used as an exit service, as there is a net export to ETSA. The fact that ElectraNet lists the service as an exit service does not deny that the service provided is two way, and is an entry and exit service.

3.4 Objectives of the distribution service regime

Clause 6.10.2 states that

> The *distribution service* pricing regulatory regime to be administered under Part D of this Chapter must seek to achieve the following outcomes:
>
> (a) n/a
>
> (b) an incentive-based regulatory regime which:
>
> (1) n/a
>
> (2) n/a
>
> (3) ensures consistency in the regulation of:
>
> (i) *connection* to *distribution networks*; and
>
> (ii) *distribution service* pricing;
>
> (4) provides for the recovery by *Distribution Network Service Providers* of *Customer TUOS usage charges* from those *Distribution Customers* that have a *metering installation* capable of capturing relevant *transmission system* and *distribution system* usage data, in a way that preserves the location and time signals of the *Customer TUOS usage prices*;
>
> (c) n/a
>
> (d) an environment which fosters an efficient level of investment within the *distribution* sector, and upstream and downstream of the *distribution* sector;
>
> (e) n/a
>
> (f) an environment which fosters efficient use of existing infrastructure;
>
> (g) n/a
>
> (h) promotion of competition in upstream and downstream markets and promotion of competition in the provision of *distribution services* where economically feasible;
>
> (i) n/a

(j) n/a

(k) n/a

When considered in this light, the objectives of the distribution regulation clearly show that the DNSP should ensure that its policies and approach recognize the needs of all of the DNSP customers.

In this specific case,

- ETSA has not applied consistency in ensuring that the allocation of transmission costs it is charged preserves locational signals to those connected to the distribution network (in contradiction of objectives (b)(3) and (b)(4))
- ETSA has fostered the efficient use of existing infrastructure by allowing Canunda to use the ElectraNet exit assets which consumers also use (objective (d) and (f)).
- ETSA has not recognized that its approach has not promoted competition upstream, as it has allowed Canunda access to the use of assets which it requires, but without paying for them. In contrast other generators are required to pay for such assets. (This is a contradiction to objective (h)).
- ETSA has not recognized that by levying the full cost of the ElectraNet exit charge on consumers it is providing a benefit to one customer at the expense of another (in contradiction to objective (h)).

Clause 6.10.5(7)(ii) permits the DNSP to recover reasonable costs arising from

> "… charges paid to *Transmission Network Service Providers* and other *Distribution Network Service Providers* arising from the provision of *distribution services*;"

This allows DNSP to get reimbursed for the TNSP charges it incurs on behalf of its customers, regardless of the way it can get reimbursement.

Rule clause 6.13.7 discusses the treatment of network service costs paid to other network service providers, including payments to TNSPs by DNSPs. Rule clause 6.13.7(b) states that:-

> "The *transmission service* costs referred to in clause 6.13.7(a) must be allocated to asset categories using an appropriate allocation method agreed with the *Jurisdictional Regulator* and consistent with the objective of the *distribution service* pricing regulatory regime set out in clause 6.10.2(b)(4)."

Thus TNSP costs and charges incurred by the DNSP are required to be allocated following the precepts for the recovery of TUoS usage charges, ie that where there is appropriate metering which captures relevant transmission system and distribution system usage data, then the objective is to preserve the location and

time signals of the customer usage of the assets needed by it for connection to the NEM.

The outcome of this requirement is that DNSP should allocate the entry/exit costs where there is adequate metering to allow this to occur.

Rule Clause 6.14(a) requires the DNSP to create a cost pool for embedded generator entry services. Where there is adequate metering, Rule clause 6.13.7(b) requires the DNSP to allocate the entry costs it incurs from the TNSP to the embedded generator. The logical (if fact only) cost pool that such a cost can be attributed to is to the embedded generator entry cost pool, as the other costs pools are for exit costs, use of system costs, common service costs, and new distribution asset costs. Rule clause 6.13.6(a) requires cost pools for entry costs only to be allocated to embedded generators.

Rule clause 6.14.1(b) specifically requires the entry cost for an embedded generator to be a fixed annual amount. This replicates the fixed annual amount a TNSP is required to charge for entry (and exit) services.

The Rules clearly impose on a DNSP the requirement for it to include the costs it incurs from a TNSP on behalf of an embedded generator, for entry services provided to the transmission network.

3.5 Use of system charges and the “with and without” adjustment

Rule clause 5.5(g) limits the amounts of **use of system** charges that can be levied on a generator for transmission and/or distribution **use of system** services to that calculated in accordance with schedule 6.3. This calculation specifically excludes generator access charges which are a separately assessed cost and are chargeable to generators.

Rule clause 5.5(h) specifically applies to embedded generators and requires the DNSP to pass through to the embedded generator the benefits of any reduction in transmission **use of system** charges which result from the activities of the embedded generator (known as the “with and without” test).

Rule clause 5.5(i) determines the basis for the calculation for the amount to be paid to an embedded generator for the avoided **TUoS usage charge**. The calculation makes no reference to entry or exit charges being part of the calculation. Therefore following the view developed under point 4.1 above referring to the SMO it cannot be inferred that entry and/or exit charges are included in the calculation.

The connected consumers are still required to pay the transmission use of system charges as they would apply if the embedded generator was not active.

The saving that the DNSP makes due to receiving full payments from consumers and the reduced payments it makes to the TNSP (because the operation of the embedded generator effectively reduces the net demand and the consumption recorded at the connection point between the DNSP and TNSP) is to passed onto the embedded generator. This is referred to as the "with and without" benefit.

In the case of Canunda, being an intermittent wind powered generator, the generator makes no reduction in the maximum demand recorded at the connection point as recorded demand at the connection point reaches its maximum at windless times with consumers operating. In the case of ElectraNet, it only charges for TUoS usage on a capacity (demand) basis[12], compared with (say) PowerLink which charges TUoS on a mix of demand and usage. Thus if there is no net observed reduction in the maximum demand at Snuggery, there is no "with and without" benefit to be passed onto Canunda.

Rule clause 6.5 identifies that there are a number of separate charges in relation to transmission charges. These are

- Customer entry charge
- Customer exit charge
- Negotiated use of system and access charge
- Customer TUoS usage prices and charges
- Transmission customer common service cost
- General service cost.

The entry and exit charges are not transmission use of system (TUoS) charges and therefore are clearly excluded from the "with and without" benefit test assessment which applies to embedded generators.

3.6 Cost allocation between entry and exit charges

Rule clause 6.4.2(c) states

> "where an individual asset provides both *entry service* and *exit service* the *Transmission Network Service Provider* must negotiate an equitable cost allocation method with the *Transmission Network Users* involved."

This highlights that where common assets are used as both an entry service and exit service, the TNSP must negotiate an equitable cost allocation method with the users involved.

[12] See appendix 1

For embedded generators, DNSP is the only customer connected to the transmission network, although at Snuggery Lake Bonney and Synergen are connected separately to the 132 kV network.

Rule clause 6.13.6(e) states that

> "Where *entry services* are shared by *Embedded Generators* and *exit services* are shared by *Distribution Customers*, the allocated cost must be shared between the *Distribution Network Users* either:
>
> (1) as agreed with the *Distribution Network Users*; or
>
> (2) on a cost reflective or other basis agreed with the *Jurisdictional Regulator*; or
>
> (3) on the basis of the *maximum demand* of individual *Distribution Network Users* at a *network coupling point*, measured in respect of the 10 hours for which the *Distribution Network User* has used the *network* most intensively during the preceding year."

This clause applies to the specific case where embedded generators and distribution consumers share the use of the same assets, and it is quite obvious that it should apply in the case of Canunda and KCA at their common connection at the 33 kV bus at Snuggery, with the common use of the step up/step down transformation facility afforded by the three 25 MVA 132/33 kV transformers.

It is apparent that the intent of the Rules is that DNSP would allocate entry and exit costs between an embedded generator and consumers, yet the definition of connection point provides the ability for the DNSP to allocate all costs to one class of customer at the expense of another class.

3.7 Equity considerations

NSPs are to be disinterested in regard to allocation of their legitimate costs. They must ensure that competitive neutrality is maintained between customers of the same class and that there is equity between customers of different classes. It is not the purview of an NSP to provide a benefit to one customer at the expense of another, nor is it the role of an NSP to allow customers of the same class to be treated differently.

When allocating costs between customers, it must ensure that in doing so it applies the Rules and regulatory directions.

3.7.1 Generator equity

There are three generators connected to the transmission network at Snuggery.

- All three pay for losses between the generation point and the 132 kV network and these relate to the distance each is from Snuggery and the infrastructure used to deliver power to Snuggery.
- All three pay for losses on the shared network as determined by NEMMCo.
- All three have dedicated connections to Snuggery and are liable for the costs of the infrastructure between the generation point and Snuggery.
- All three generate power at voltages less than the 132 kV and therefore must have step transformation.

However of these three generators only Synergen and Lake Bonney have:-

- Had to fund their step up transformation to the transmission voltage.
- To pay connection charges to ElectraNet.

In counterpoint, the ETSA approach has allowed Canunda to avoid these costs, and by doing so has created a situation where there is no longer competitive neutrality between competing generation businesses located adjacent to each other.

The Rules are intended to create competitive neutrality and the NSPs are required to ensure that their actions continue this competitive neutrality. ETSA actions have led to competitive neutrality at Snuggery being destroyed, with an ETSA customer being given a benefit compared to its competitors, and that benefit being paid for by consumers.

For full competitive neutrality, Canunda should be allocated the full cost of the entry assets used, but because these entry/exit assets are shared with a consumer then equity would indicate that the costs be shared equally.

3.7.2 Customer equity

Consumers pay the entire exit charges related to the three transformers supplying power to the 33 kV industrial bus. Canunda pays no entry charges to the ElectraNet network. ETSA, in its role as DNSP allocates all of the exit charges to consumers and therefore does not absorb any of the exit charges.

Both consumers and Canunda require the use of the three transformers tied to the industrial bus, yet ETSA has allocated all of the costs for this service to one party (consumers), allowing the other party a “free ride”, and in doing so has not maintained competitive neutrality with the other generators using Snuggery as their access point to the NEM.

The Rules are quite specific in that there are certain charges that generators must pay. These are the costs of connecting to the shared network, including any transformation to match the transmission voltage. These connection costs are in

part contestable (those assets external to the substation) and negotiable (those assets which can only be provided by the NSP). Consumers are only required to pay for the use of the shared network and those connection assets which are dedicated to consumers.

By DNSP requiring consumers to pay for all the costs associated with embedded generator getting access to the transmission network, DNSP has levied charges on consumers which should be in part paid for by embedded generator.

Appendix 1

ElectraNet SA
electricity transmission network

Transmission Service Price Schedule

1 January 2003 to 30 June 2003

(inclusive of Australian Goods and Services Tax (GST))

Customer Group of Connection Points	Voltage (kV)	Exit Price ($/day)	TUOS Usage	TUOS General		Common Service	
			Capacity Price ($/MW/day)	Capacity Price ($/MW/day)	Energy Price ($/MWh)	Capacity Price ($/MW/day)	Energy Price ($/MWh)
Adelaide Eastern suburbs	66	12,114	36.210	52.560	4.996	34.243	3.255
Adelaide Southern suburbs	66	6,743	35.898	52.560	4.996	34.243	3.255
Adelaide Western suburbs	66	4,086	23.954	52.560	4.996	34.243	3.255
Para subsystem	66	5,498	23.355	52.560	4.996	34.243	3.255
Port Pirie subsystem	33	1,429	82.706	52.560	4.996	34.243	3.255
SA Water sites	33/11/3.3	6,206	77.686	52.560	4.996	34.243	3.255
Templers subsystem	33	1,986	61.142	52.560	4.996	34.243	3.255

Customer Connection Point	Voltage (kV)	Exit Price ($/day)	TUOS Usage	TUOS General		Common Service	
			Capacity Price ($/MW/day)	Capacity Price ($/MW/day)	Energy Price ($/MWh)	Capacity Price ($/MW/day)	Energy Price ($/MWh)
Angas Creek	33	1,245	57.458	52.560	4.996	34.243	3.255
Ardrossan West	33	1,014	110.149	52.560	4.996	34.243	3.255
Baroota	33	474	49.469	52.560	4.996	34.243	3.255
Berri	66	1,396	149.229	52.560	4.996	34.243	3.255
Blanche	33	1,408	64.470	52.560	4.996	34.243	3.255
Brinkworth	33	1,279	49.070	52.560	4.996	34.243	3.255
Bunguma Rural	33	615	58.744	52.560	4.996	34.243	3.255
Dalrymple	33	432	279.048	52.560	4.996	34.243	3.255
Florieton SWER	3.3	0	82.036	52.560	4.996	34.243	3.255
Hummocks	33	1,608	90.287	52.560	4.996	34.243	3.255
Kadina East	33	564	124.971	52.560	4.996	34.243	3.255
Kanmantoo	11	586	54.383	52.560	4.996	34.243	3.255
Keith	33	1,454	61.355	52.560	4.996	34.243	3.255
Kincraig	33	1,314	41.413	52.560	4.996	34.243	3.255
Leigh Creek Coalfield	33	833	623.775	52.560	4.996	34.243	3.255
Leigh Creek South	33	592	878.718	52.560	4.996	34.243	3.255
Mannum	33	936	58.762	52.560	4.996	34.243	3.255
Middleback	33	349	89.344	52.560	4.996	34.243	3.255
Mobilong	33	1,523	49.555	52.560	4.996	34.243	3.255
Mt Barker	66	1,573	64.669	52.560	4.996	34.243	3.255
Mt Gambier	33	1,616	49.269	52.560	4.996	34.243	3.255
Mt Gunson	33	293	114.205	52.560	4.996	34.243	3.255
Neuroodla	33	263	616.343	52.560	4.996	34.243	3.255
North West Bend	66	1,376	79.370	52.560	4.996	34.243	3.255
Playford	33	1,793	26.300	52.560	4.996	34.243	3.255
Port Lincoln	33	1,444	492.070	52.560	4.996	34.243	3.255
Roseworthy	132	Note (3)	27.669	52.560	4.996	34.243	3.255
Snuggery Industrial	33	1,300	86.428	52.560	4.996	34.243	3.255
Snuggery Rural	33	628	79.018	52.560	4.996	34.243	3.255
Stony Point	11	883	76.147	52.560	4.996	34.243	3.255
Stony Point (Whyalla Refiners)	11	0	76.147	52.560	4.996	34.243	3.255
Tailem Bend	33	1,622	43.681	52.560	4.996	34.243	3.255
Waterloo	33	1,652	56.592	52.560	4.996	34.243	3.255
Whyalla	33	1,688	43.769	52.560	4.996	34.243	3.255
Whyalla BHP LMF	33	614	57.827	52.560	4.996	34.243	3.255
WMC Davenport	275	630	13.531	52.560	4.996	34.243	3.255
WMC Pimba	132	329	0.000	52.560	4.996	34.243	3.255

Customer Connection Point	Voltage (kV)	Exit Price ($/day)	TUOS Usage	TUOS General		Common Service	
			Capacity Price ($/MW/day)	Capacity Price ($/MW/day)	Energy Price ($/MWh)	Capacity Price ($/MW/day)	Energy Price ($/MWh)
Woomera	132	0	219.232	52.560	4.996	34.243	3.255
Wudinna	66	601	168.699	52.560	4.996	34.243	3.255
Yadnarie	66	1,377	135.958	52.560	4.996	34.243	3.255

Generator Connection Point	Voltage (kV)	Entry Price ($/day)
Dry Creek	66	606
Mintaro	132	199
Northern Power Station	275	1,431
Osborne	66	531
Pelican Point	275	1,220
Penola West	132	310
Playford	275	591
Playford/NPS House Supplies	132/11	1,380
Port Lincoln	132	167
Snuggery	132	438
Torrens Island A	275	1,639
Torrens Island B	275	438
Torrens Island House Supplies	66	397

Notes:

(1) TUOS = Transmission Use of System.

(2) The transmission service prices shown in this schedule have been calculated in accordance with chapter 6 of the National Electricity Code and the ACCC's *South Australian Transmission Revenue Cap 2003-2007/08* decision dated 11 December 2002 (www.accc.gov.au).

(3) This schedule details prescribed (regulated) transmission service prices only. Transmission prices associated with excluded (non-regulated) transmission services are not included in this schedule.

(4) This schedule sets out the transmission service prices for the connection points (exit and entry points) existing at 1 January 2003. The prices for a new connection point will be determined and applied by ElectraNet SA in accordance with chapter 6 of the National Electricity Code.

(5) TUOS Usage Charges will be determined for each exit point by applying the TUOS Usage Capacity Price to the maximum contract demand (agreed maximum demand) for that exit point determined in accordance with the customer's connection agreement.

(6) TUOS General and Common Service Charges - The TUOS General and Common Service prices are the same for each exit point on ElectraNet SA's transmission network. Customers will be charged on the basis of whether the capacity price or the energy price applies, dependant on their load factor at the exit point or group of exit points.

Where TUOS General and Common Service charges are calculated by using the capacity price, the charges will be determined by multiplying the capacity price by the maximum contract demand (agreed maximum demand) determined in accordance with the customer's connection agreement and multiplying this amount by the number of days in the billing period. If the customer's demand exceeds the agreed level then an Excess Demand Charge will apply.

Where the charges are billed on the basis of energy, the monthly charge will be determined by multiplying the energy price by the total energy consumption in the equivalent billing period in 2001/02. Where energy consumption history is unavailable for an exit point for the entire 2001/02 financial year, or where ElectraNet SA has obtained approval from the ACCC, energy consumption within the current billing period will be used. ElectraNet SA will advise customers when current data rather than historical data is to be used.

(7) Service Standards - The service standards to which the regulated transmission prices in this schedule relate are the exit point reliability standards specified in clause 2.2.2 of the South Australian Transmission Code (www.escosa.sa.gov.au) and the performance targets set by the ACCC in its *South Australian Transmission Revenue Cap 2003-2007/08* decision dated 11 December 2002 (www.accc.gov.au).

(8) Terms used in this Schedule have the meaning given to them in the National Electricity Code.

Appendix 2

Excerpts and Definitions accessed from Electricity Rules

connect, connected, connection

To form a physical link to or through a *transmission network* or *distribution network*.

connection agreement

An agreement between a *Network Service Provider* and a *Registered Participant* or other person by which the *Registered Participant* or other person is *connected* to the *Network Service Provider's transmission* or *distribution network* and/or receives *transmission services* or *distribution services*. In some *participating jurisdictions*, the *Registered Participant* or other person may have one *connection agreement* with a *Network Service Provider* for *connection services* and another agreement with a different *Network Service Provider* for *network services* provided by the *transmission network*.

connection assets

Those components of a *transmission or distribution system* which are used to provide *connection services*.

connection point

The agreed point of *supply* established between *Network Service Provider*(s) and another *Registered Participant, Non-Registered Customer* or *franchise customer*.

connection service

An *entry service* (being a service provided to serve a *Generator* or group of *Generators* at a single *connection point*) or an *exit service* (being a service provided to serve a *Transmission* or *Distribution Customer* or group of *Transmission* or *Distribution Customers* at a single *connection point).*

contestable

Other than in clauses 6.2.4(f) and 9.8.4C(a1), in relation to *transmission services* or *distribution services,* a service which is permitted by the laws of the relevant *participating jurisdiction* to be provided by more than one *Network Service Provider* as a contestable service or on a competitive basis.

Customer transmission use of system, Customer transmission use of system service

A service provided to a *Transmission Customer* for use of the *transmission network* for the conveyance of electricity that can be reasonably allocated to a *Network User* on a locational basis, but does not include *Generator transmission use of system services*.

entry service

A service provided to serve a *Generator* or group of *Generators* at a single *connection point*.

entry cost

For each *connection point*, the amount of the *annual revenue requirement* for all individual assets classified as *entry service* assets which provide *entry service* for the *connection point*.

exit service

A service provided to serve a *Transmission* or *Distribution Customer* or group of *Transmission* or *Distribution Customers* at a single *connection point.*

entry charge

The charge payable by a *Generator* to a *Network Service Provider* for *entry service* at a *connection point*.

excluded distribution services

Distribution services which are subject to a more "light-handed" regulatory approach than that described in clause 6.10.5 with the result that the costs of and revenue for such services are excluded from the *revenue cap* or *price cap* which applies to *prescribed distribution services.*

excluded transmission services

Transmission services the costs of and revenue for which are excluded from the *revenue cap* which applies to *prescribed transmission services*.

exit cost

For each *connection point* the amount of the *annual revenue requirement* for all individual assets classified as *exit service* assets which provide *exit service* for the *connection point*.

exit charge

The charge payable by a *Transmission Customer* or *Distribution Customer* to a *Transmission Network Service Provider* or a *Distribution Network Service Provider* respectively for *exit service* at a *connection point*.

generator access

The *power transfer capability* of the *transmission network* and/or *distribution network* in respect of the *Generator's generating units* or group of *generating units* at a *connection point* which has been negotiated between the *Generator* and the relevant *Network Service Provider* in accordance with clause 5.5.

negotiable service

1. In relation to *transmission services* means:

(a) an *excluded transmission service*;

(b) that part of a *prescribed transmission service* which is to be provided to a standard which is higher or lower than any standard:

(1) described in schedule 5.1;

(2) outlined in the standards published in accordance with clause 6.5.7(b); or

(3) required by any regulatory regime administered by the *AER*;

(c) *connection services, use of system services* and *generator access* provided to a *Generator*, for which charges are negotiated under clause 5.5;

(d) *connection services*, *use of system services* and *market network service provider access* provided to a *Market Network Service Provider*, for which charges are negotiated under clause 5.5A; or

(e) that part of a *prescribed transmission service* which is to be provided at reduced *Customer TUOS general charges* or reduced *common service charges* (the "*agreed reduced charges*") under clause 6.5.8,

and does not include a *contestable* service.

2. In relation to *distribution services* means:

(a) an *excluded distribution service*;

(b) that part of a *prescribed distribution service* which is to be provided to a standard which is higher or lower than any standard:

(1) described in schedule 5.1;

(2) outlined in the standards published in accordance with 6.14.5(a)(3); or

(3) required by any regulatory regime administered by the *AER* or a *Jurisdictional Regulator* (as appropriate);

(c) *connection services, use of system services* and *generator access* provided to a *Generator*, for which charges are negotiated under clause 5.5; or

(d) *connection services*, *use of system services* and *market network service provider access* provided to a *Market Network Service Provider*, for which charges are negotiated under clause 5.5A,

and does not include a *contestable* service.

network connection

The formation of a physical link between the *facilities* of two *Registered Participants* or a *Registered Participant* and a customer being a *connection* to a *transmission* or *distribution network* via *connection assets.*

network coupling point

The point at which *connection assets* join a *distribution network*, used to identify the *distribution service* price payable by a *Customer*, more fully described in schedule 6.6.

switchyard

The *connection point* of *a generating unit* into the *network*, generally involving the ability to *connect* the *generating unit* to one or more outgoing *network* circuits.

transmission service

The services provided by a *transmission system* which are associated with the conveyance of electricity through the *transmission system*. *Transmission services* include *entry services, transmission use of system service*s and *exit services* which are provided by part of a *transmission system.*

transmission system

A *transmission network*, together with the *connection assets* associated with the *transmission network*, which is connected to another *transmission or distribution system*.

6.3.1 Determining annual revenue requirement for classes of transmission service

(a) The classes of *transmission services* are:

(1) *entry service* which includes those services provided to serve a *Generator* or group of *Generators* at a single *connection point*;

(2) *exit service* which includes those services provided to serve a *Transmission Customer* or group of *Transmission Customers* at a single *connection point*;

Schedule 6.2

2. Entry and Exit Assets

The *entry* and *exit asset* costs are recovered from the *Transmission Network Users* who benefit from them and requires no complex analysis to determine the sharing.

A "shallow *connection asset*" policy is to be adopted in which only those assets (including individual assets within a *substation*) which provide *supply* to only those *Transmission Network Users connected* at the *connection point* are included. This is a simple definition, which avoids the difficulties that can be caused by a "deeper *connection asset*" policy where assets may change from *connection assets* to becoming part of the *transmission network*.

Consequently *entry* and *exit assets* include only *substation* assets, including *transformers*, which are used to supply *load* at the interface between *Transmission Network Users* and the *transmission network*.

However the *Transmission Network Service Provider* may require the *Transmission Network User* to meet all the *network* charges for radial *transmission lines*.

Transmission lines connecting *Generators* to the *Transmission Network Service Provider's* assets may be assets of the *Generator*. Where such are owned by the *Transmission Network Service Provider* they are to be treated as *connection assets*.

Some *substation* establishment and building costs are to be recovered through entry and exit charges. Treatment of these costs is covered in the following section.

6.6.2 Capital contribution or prepayment for a specific asset

Where the *Transmission Network Service Provider* is required to construct specific assets to provide *connection service* and/or *transmission use of system service* to a *Generator*, *Transmission Customer* or another person having a *connection point* on the *transmission network*, the *Transmission Network Service Provider* may require that person to make a capital contribution or prepayment for all or part of the cost of the new assets installed

and any contribution made must be taken into account in the determination of *transmission service* prices applicable to that person.