

Trading Division

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**By mail**

Dr John Tamblyn  
Chairman  
Australian Energy Market Commission  
PO Box 166  
AUSTRALIA SQUARE NSW 1215

Dear Dr Tamblyn

**National Electricity Rules: Rule Change Application  
Rules to establish a comprehensive inter-participant framework for addressing  
network replacement or reconfiguration**

We enclose an application, pursuant to s 91(1) of the National Electricity Law (NEL), requesting the Australian Energy Market Commission (AEMC) make Rules to establish a comprehensive inter-participant framework for addressing network replacement or reconfigurations.

For the purposes of Regulation 8(1) of the *National Electricity (South Australia) Regulations* (as amended by the *National Electricity (South Australia) Variation Regulations 2005*) the application is made by Stanwell Corporation, 1 Eagle St Brisbane, Queensland 4000.

This rule change is intended to provide networks and network users with accurate market signals when they are making locational decisions and in particular address the asymmetric risks that generators face as a result of potential decisions by transmission network service providers (TNSP's) to replace or reconfigure their network.

When discussing network replacement or reconfiguration, Stanwell is referring to changes to the configuration or components of the transmission network that do not constitute an augmentation of the network.

Please see Attachment A for a case study illustration of the problems caused by network replacement or reconfiguration.

**1 Identification of Issues**

Stanwell has previously made submissions to the AEMC in relation this issue. Stanwell made clear its concerns in its responses dated:

- 12 December 2005 to the AEMC *Review of the Electricity and Transmission Revenue and Pricing Rules - Transmission Pricing Issues Paper*,
- 20 March 2006 to the *Transmission Revenue: Rule Proposal Report and Draft National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*; and
- 24 February 2005 to the Rule proposal lodged by the Ministerial Council on Energy (MCE) concerning reform of the Regulatory Test.

In these submissions, Stanwell identified the following issues:

### **1.1 The locational decision is one of the most important decisions a Network User can make**

The locational decision of a generator is one of the most important decisions a generator can make as this decision is central to the profitability of the generation project. Furthermore building generation facilities is long run investment (up to a period of 50 years) involving very high sunk costs.

Importantly, one of the most critical factors in a generator's locational decision will be the capacity, reliability and effective cost of evacuating power through the transmission network from that location. Similarly, the decision to expand the generation capacity will be dependent on the existence of an ability to evacuate that further capacity.

Stanwell understand that loads, particularly large energy intensive loads would face similar issues.

### **1.2 Network Users face risk they cannot mitigate or manage**

Once a generator has made its locational decision, constructed generation facilities and made ongoing investment in maintaining and/or expanding generation capacity, the generator faces a risk that it is unable to independently mitigate or manage – the risk that a TNSP may decide to replace or reconfigure the network in a manner that is deleterious to the generator. The reconfiguration or replacement may be deleterious where:

- (a) it results in previously shared network assets being reclassified as connection assets, the costs of which may be sought to be recovered from an individual generator;
- (b) a generator loses access to the numerous points of access it has to a network such that, despite it still be connected to a transmission network, it cannot offer services that was previously able to provide; or
- (c) a generator loses access to the numerous points of access it has to a network such that, despite it still being connection to a transmission network, there is a reduction in the level of reliability of supply.

Given the inability of generators to predict, and therefore internalise, manage or mitigate future alterations to the transmission network in their region that harm the generator, the generator should not bear the risk of these events. Should generators be forced to bear these risks, this will act as a disincentive to efficient investment which may ultimately increase the cost of electricity to consumers as well as having implications for reliability and security and supply.

In relation to issue (a), Stanwell notes that its concerns about the reclassification of assets have been acknowledged by the AEMC and to some extent addressed by the proposed inclusion of draft clause 6.21(a)(7) in the rules which provides that '*[C]osts in the RAB can not, in future, be allocated to the Negotiated Service Charges.*' In its letter dated 20 March 2006 Stanwell has suggested amendments to the proposed clause to ensure that there is no uncertainty as its interpretation. Stanwell understands that the AEMC is considering Stanwell's proposed drafting as part of its transmission revenue and pricing review. If there is any issue that the AEMC has with the proposed drafting, Stanwell would welcome a discussion of the issue.

This rule change application concerns issues (b) and (c).

### 1.3 The regulatory test does not currently apply (and should) apply to the replacement and reconfiguration of networks

The role of the *Regulatory Test* is to promote efficient network planning decisions with respect to:

- *whether* expenditure is warranted or net beneficial; and if so
- *which* project should be pursued or preferred.

Rule 5.6.6(b) provides that:

"an analysis of the ranking of the proposed *new large transmission network asset* and all reasonable alternatives [must be undertaken by the applicant] in accordance with the principles contained in the *regulatory test*".<sup>1</sup>

A new large transmission network asset is an:

"asset of a *TNSP* which is an *augmentation* and in relation to which the *TNSP* has estimated it will be required to invest a total capitalised expenditure in excess of \$10m."<sup>2</sup>

An *augmentation* is:

"works to enlarge a network or to increase the capacity of a *network* to transmit or distribute *active energy*" (emphasis added).

Generally speaking NEM networks are continually growing and, therefore, the above requirements to undertake the *regulatory test* have by-and-large applied where there are significant expenditures to be undertaken.

However, significant expenditure may be required which are not "enlargements" and/or "increases in capacity." Ageing transmission networks may need to be replaced or the network reconfigured. In the period since the original transmission network was constructed, the need for it to be replaced may have diminished or increased, loads or

<sup>1</sup> Rule 5.6.6A provides that the AER must take into account, in the context of setting the revenue cap for a transmission network service provider whether each *new small transmission network asset* identified in the Annual Planning Report satisfies the regulatory test and there are analogous concepts for distribution network assets.

<sup>2</sup> A *new small transmission network asset* has an similar meaning but with an expenditure in excess of \$1m and there are analogous concepts for distribution network assets.

generation could have grown, shrunk or shifted, the terrain can have altered or the regulations concerning land use and network routing may have been varied.

Therefore from a policy perspective exactly the same issues arise concerning network replacement or reconfiguration works as for an enlargement or augmentation. These issues being:

- *whether* expenditure is warranted or net beneficial; and if so
- *which* project should be pursued or preferred.

The same regulatory framework should therefore apply to such network replacement or reconfiguration projects as applies to augmentations.

Furthermore, many of the costs and benefits of particular network augmentations which are taken into account in the application of the regulatory test are the costs and benefits accruing to network users. Similarly, the network planning decisions concerning whether and how assets are replaced or reconfigured have profound costs and benefits to network users.

## 2 Proposed rule changes

In light of these issues, rule changes are therefore required to:

- (a) decrease the riskiness of already risky investments in establishing, maintaining and expanding generation facilities such that generators have an incentive to behave efficiently;
- (b) ensure that decisions regarding replacement or reconfiguration of transmission networks are transparent so as to promote efficient network planning decisions; and
- (c) ensure that the costs incurred or profit foregone by generators as a result of network replacement or reconfiguration is recognised and compensation is payable as a result, in order to ensure that efficient investment is not deterred.

In order to achieve this, Stanwell proposes:

- (a) that the *regulatory test* must be undertaken not only in the context of augmentation of the network but also where there is a network replacement or reconfiguration;
- (b) that compensation be payable to generators where they incur cost or forgo profit as a result of a network replacement or reconfiguration, unless generators and TNSP's agree otherwise; and
- (c) there be a mechanism which allows TNSPs to recoup the cost of the compensation payable as a result of network replacement or reconfiguration via the TNSP revenue cap calculation and in-period via a "positive pass through" mechanism.

While Stanwell considers that all three elements (together with the changes to Chapter 6 as part of the AEMC's transmission revenue and pricing review discussed above) form a comprehensive framework for addressing network replacement or reconfigurations, Stanwell also considers that each elements is desirable in its own right.

The attachment to this section proposes specific wording.

### 3 How the proposed rule addresses the issues and contribute to the achievement of the National Electricity Market Objective

The National Electricity Market Objective is set out in section 7 of the National Electricity Law, and is reproduced below.

*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.*

Under the National Electricity Law, the AEMC has rule making functions and powers in respect of the National Electricity Rules. In performing or exercising these functions and powers the AEMC must have regard to the National Electricity Market objective.<sup>3</sup>

The rule change proposed above will contribute to the National Electricity Market Objective as:

- (i) the proposed rule will operate in such a way as to decrease the riskiness of already risky investments by generators in establishing, maintaining and expanding generation facilities, ensuring that investment is not discouraged by exposure to a risk that generators are unable to influence or mitigate in any way;
- (ii) in helping to ensure that efficient investment is not deterred, the proposed rule should encourage competition in the upstream generation market, with consequential benefits in terms of price and quality for consumers of electricity;
- (iii) the proposed rule should also enhance reliability and security of supply as investment in generation capacity will not be deterred on the ground that generators are exposed to the risk that, at some point in the life of the investment, their costs could significantly increase or their profit could be significantly diminished as a result of a network replacement or reconfiguration;
- (iv) the proposed rule would specifically facilitate diversity of generator locations, thus enhancing reliability through reducing the risk to the system as a whole of localised service interruptions;
- (v) the proposed rule will enhance the efficiency of market related decisions by investors in respect of generation as the basis upon which the investment decision is made will be safeguarded, therefore, one element of risk that may otherwise dissuade efficient investment is controlled for;
- (vi) in controlling this area of risk, the rule change should increase the willingness of investors to commit capital to the National Electricity Market, reducing the long term cost of the National Electricity Market;
- (vii) the role of transmission pricing outcomes in signalling investment opportunities to potential investors in generation will be enhanced by the

proposed rule as an element of 'noise' or uncertainty in that signalling is removed, meaning that investors are provided with greater certainty that the basis upon which they make their investments will not shift in a manner that is detrimental to them for the life of that particular investment;

- (viii) the proposed rule will have no net effect on the ability of the TNSP to recover its costs of operating the network, but will ensure that transmission prices are structured in a way that does not deter the utilisation of generation network assets that are already in existence and have no alternative use – ensuring that the long term interests of consumers are promoted; and
- (ix) the proposed rules will not effect the ability of the TNSP to configure its network in the most efficient way – but will require such providers to take into account the costs of replacements or reconfigurations of the transmissions network in terms of any consequential inability of a generator to provide ancillary services –ensuring the long term interests of consumers are promoted.

Should you have any questions in relation to this submission please contact Denis Warburton on (07) 3335 3846.

Kind regards

A handwritten signature in black ink, appearing to read 'Andrew Bills', with a stylized, cursive script.

**Andrew Bills**  
General Manager Business Expansion

## Attachment A: Hypothetical case studies

### 1 Reconfiguration of the transmission network

Take for example Generator Z that is considering investing in generating plant in Queensland and is looking at two options.

- (i) A hydro generating plant which would be located some distance from the transmission network with the consequence that the network would have to be extended some distance to connect the hydro electric plant to the network – representing a significant charge to the generator in the form of entry services.
- (ii) A coal-fired generation plant which is located in an area in which there is, and has been for some time, significant transmission network infrastructure. A site is identified with three transmission lines out to service loads. Additionally, the configuration of the existing network means that ancillary services, such as black start services may be offered (following further investment), and additional revenue obtained from these services.

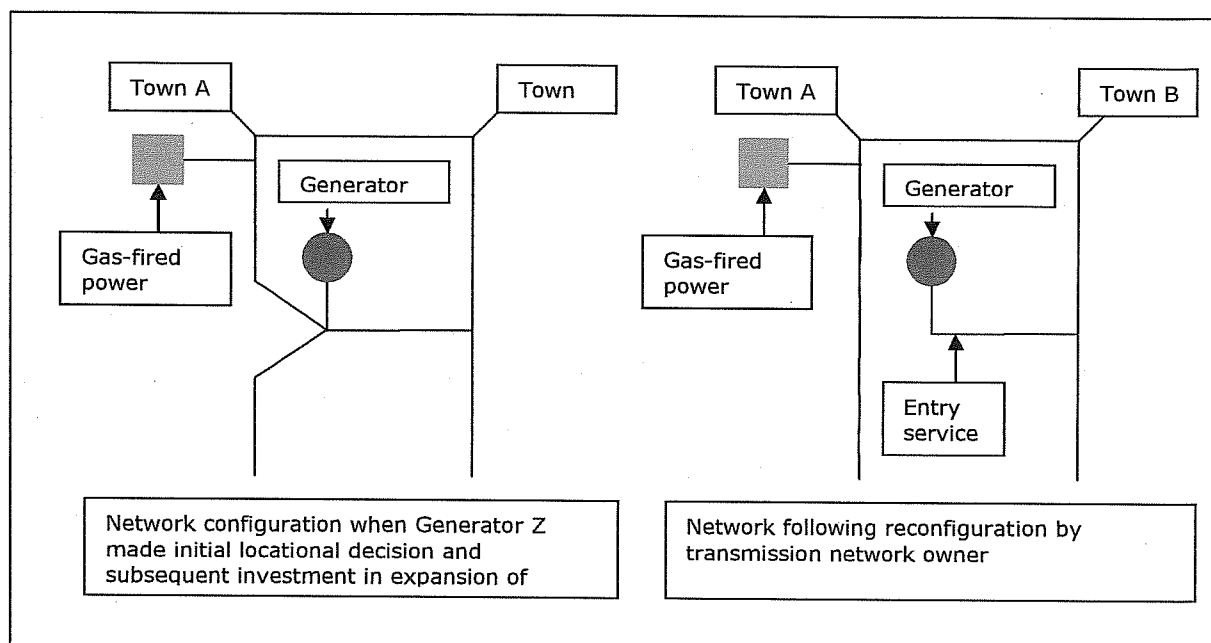
Both options offer a similar marginal return. Generator Z elects option (ii) on the basis of the lower transmission network charges and the ability to generate future additional revenue from offering ancillary services.

The coal-fired generation plant developed by Generator Z represents a significant sunk investment, and Generator Z does not expect to commence making a positive return on its investment until year 20 of its investment. Ten years after making its initial investment, Generator Z makes a further investment to increase the capacity of its generating plant so it can offer black start services to NEMMCO that would enable a gas-fired power station located near Town A, north of Generator Z to restore normal power system operation from a black system condition.

In year 15, the transmission network operator implements a reconfiguration of the transmission network in the area in which Generator Z is located. Following this reconfiguration, the generator, whilst still connected to the network, is now only able to evacuate its power along one transmission line. This has two serious implications for Generator Z's viability as follows:

- (i) the line along which Generator Z now evacuates its power takes on the character of a entry service, that is, a service provided to Generator Z at a single transmission network connection point; and
- (ii) whereas previously Generator Z was able to offer black start capability and receive additional revenue for this, Generator Z is no longer able to offer these services as it is unable to generate sufficient power to energise the (now longer) line between it and the gas-fired power station.

The situation before and after the network reconfiguration is presented diagrammatically below.



Under the initial National Electricity Rule (that is, before the Chapter 6 review commenced) Generator Z would not only face increased costs as a result of the reclassification of part of the transmission network from a prescribed transmission service to a negotiated transmission service (as an entry service), but also decreased revenue as a consequence of no longer being able to offer ancillary services (black start capability). As the initial investment was marginal, and the subsequent investment in increasing the capacity of the generating plant so that ancillary services could be offered was reliant on revenue being received for these services, Generator Z will have to reassess whether it should continue to operate the generator.

Generator Z is also now considering making another investment in generating plant, this time in South Australia. Generator Z carries out a thorough investigation into whether this investment will deliver a sufficient return to shareholders. If the calculation of the expected return is based on the current configuration of the transmission network in South Australia, with the only changes being to increase or expand the network, it appears that a sufficient return will be earned. However, if an allowance is made for the risk that the transmission network could change such that a more significant part of the transmission network may come to be classified as providing entry services, the additional costs that Generator Z will face as a result mean that a sufficient return will not be earned. As there is no way available to Generator Z to manage the risk that the existing network may be reconfigured in a way that is materially detrimental to Generator Z, it chooses not to make this investment.

## 2 Removal of a load centre and other generators from a single transmission network connection point

A generator may also be disadvantaged where it locates in an area where there are a group of generators and a load centre and the load is removed and, potentially, the number of generators in that region decreases.

Take, for example, Generator X who chooses to locate in a region where two other generators (Generators Y and Z) are already located. There is also a significant load located in the region, a large smelter. The transmission line that connects Generators X, Y

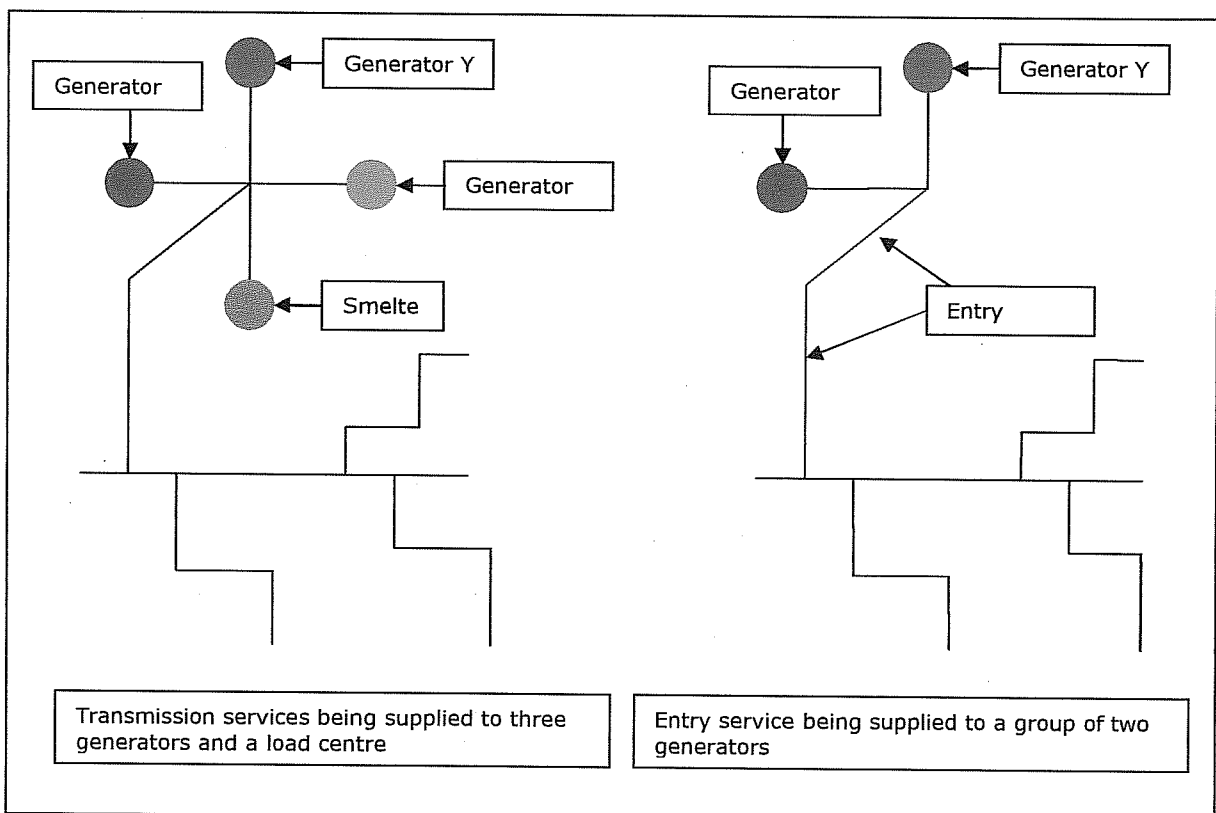


and Z, and the smelter, to the transmission network is a prescribed transmission service, and as a result, the costs of this line are recovered from all network users.

The investment by Generator X is a large sunk cost with Generator X expecting to recover the costs of its investment over a period of thirty years.

However, after 15 years, the smelter closes down and Generator Z also ceases operations. Generators X and Y are still generating, however, the transmission line that previously connected the generators and the smelter to the transmission network is now reclassified as a connection service (entry service) and the costs of this significant piece of infrastructure are now to be borne by Generators X and Y.

Generator Y is unable to bear the additional costs to its operations and fears that it must also cease operating. In the event that this occurs, the cost of the transmission line will then be fully allocated to Generator X and it would similarly have to seriously consider whether it could continue to operate.

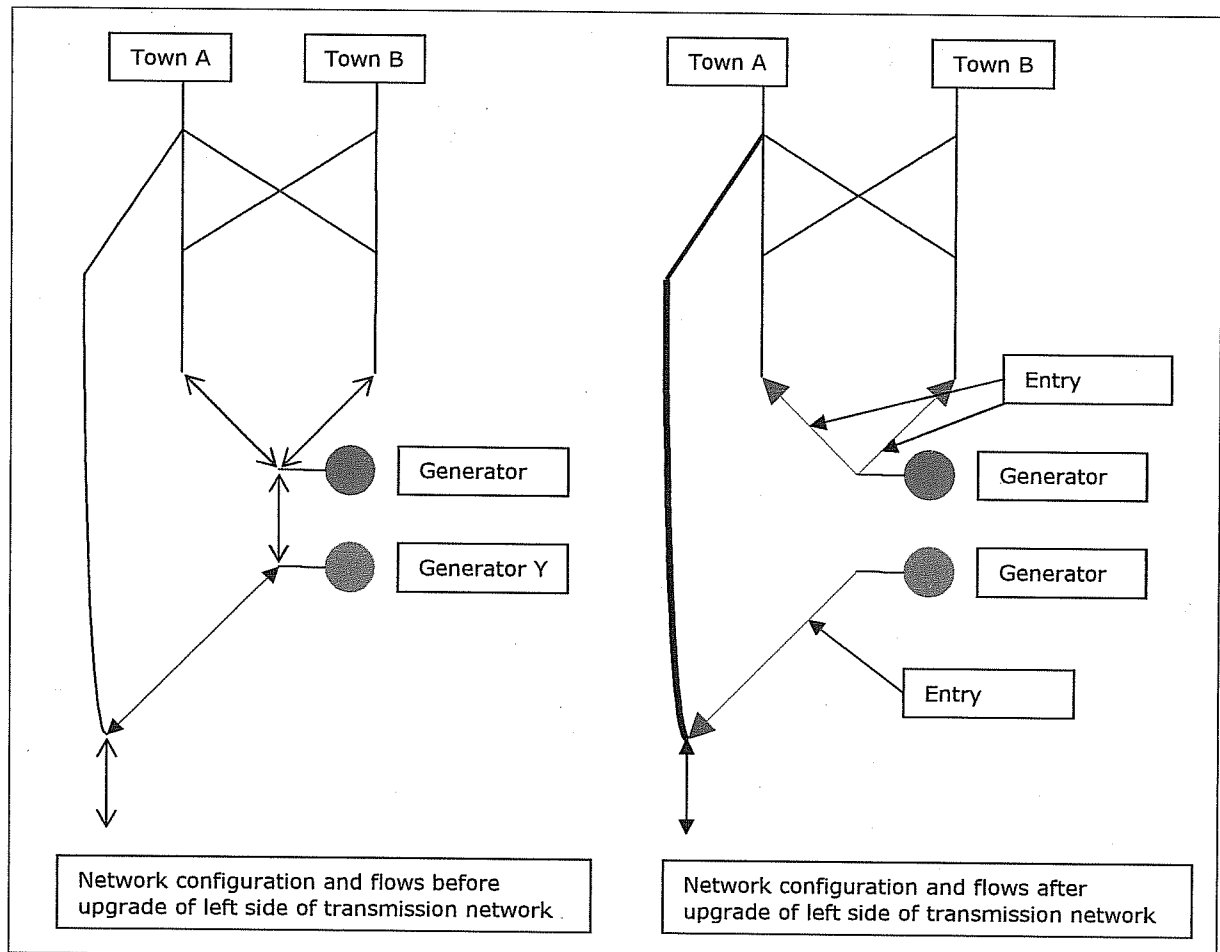


However, should the reverse situation occur, where the transmission network has been built out to serve one generator, and more generators or a load centre also commence using that infrastructure, it is appropriate that the costs of that network infrastructure be shared between the four generators. This is because that load centre and the other generators should not be able to free-ride on the investment made by the original generator in having the transmission line extended.

### 3 Augmentation of the transmission network that results in the by-passing of parts of the existing network

Generators may also be disadvantaged if the transmission network along which the power of generators is evacuated is by-passed through a significant upgrade in the capacity of the network in a more distant location.

This is shown diagrammatically below.



In the above diagram, energy was previously flowing north and south along both transmission lines. The costs for transmission services that Generators X and Y were paying were largely made up of charges for prescribed transmission services.

However, following a significant upgrade of the capacity of the transmission line on the left, a small part of the network is removed between Generators X and Y, and as a result, Generators X and Y will each become responsible for the costs of significant parts of transmission network infrastructure.

## Attachment B: Proposed Rule Changes

### Changes to be made to Current Rule

In Chapter 10 insert network replacement or reconfiguration

Works, which are not a new large transmission network or small transmission network to:

- (a) maintain the size or capability of the network to transmit or distribute active energy; or
- (b) re-route the path or the network; or
- (c) modify the technical capabilities or usability for Network Users of all or parts of the network;

in relation to which the Transmission Network Service Provider.

- (d) estimates it will be required to invest a total capitalised expenditure in excess of \$1 million; or
- (e) reasonably apprehends that market participants will incur a cost and/or forgo revenue in excess of \$1 million.

In Chapter 10 insert subclause 4 into *affected participant*

- (4) In Clause 5.6.6C, a market participant whom a Transmission Network Service Provider reasonably apprehends will incur a cost, or loss of revenue, in excess of \$1 million as a result of a proposed network replacement or reconfiguration.

Insert clause 5.6.6C

- (f) Prior to undertaking a network replacement or reconfiguration a Transmission Network Service Provider must prepare and provide a notification report to all affected participants which sets out:
  - (i) the month and year in which the proposed network replacement or reconfiguration will become operational;
  - (ii) the purpose of the network replacement or reconfiguration;
  - (iii) the total cost of the proposed network replacement or reconfiguration;
  - (iv) other reasonable network and non-network options to the network replacement or reconfiguration. Other reasonable network and non-network options include, but are not limited to, interconnections, generation options, demand side options, market network service options; options involving other transmission and distribution networks and options which involve maintaining the existing configuration of network.

- (v) an explanation of the ranking of reasonable alternatives to the project including *non-network* alternatives. This ranking must be undertaken by the *Transmission Network Service Provider* in accordance with the principles contained in the *regulatory test*; and
- (vi) whether the proposed solution will have a *material inter-network impact*. In assessing whether a *network replacement or reconfiguration* will have a material inter-network impact a *Transmission Network Service Provider* must have regard to the objective set of criteria *published* by the *Inter-regional Planning Committee* in accordance with clause 5.6.3(i) (if any such criteria have been *published* by the *Inter-Regional Planning Committee*).

and must consult with *affected participants* and provide a reasonable opportunity for *affected participants* to make written submissions in relation to the proposed *network replacement or reconfiguration*.

- (g) At the conclusion of the consultation process in clause 5.6.6C(a) and before undertaking the *network replacement or reconfiguration* :
  - (i) the *Transmission Network Service Provider* must consider the matters raised in the comments and written submissions of *affected participants* and make appropriate amendments;
  - (ii) if there is any material change in the proposed *network replacement or reconfiguration* as a result of the consultation process, the *Transmission Network Service provider* must provide a further notification report pursuant to clause 5.6.6C(a) to *affected participants*, in relation to the proposed *network replacement or reconfiguration*, incorporating the agreed or amended matters; and
  - (iii) the *AER* must take into account the matters raised in the consultation process in its determination of the *Transmission Network Service Provider's* revenue cap and its determination of whether the *network replacement or reconfiguration* the subject of the consultation satisfies the *regulatory test*.

Insert clause 5.3.4B

#### Compensation for *network replacement or reconfiguration*

- (h) Unless a *connection agreement* otherwise provides for the relationship between the parties to it in respect of a *network replacement or reconfiguration*, compensation will be payable by a *Transmission Network Service Provider* to an *affected participant*, in the amount and at the time, the *affected participant* incurs a cost or forgoes revenue as a result of a *network replacement or reconfiguration* by the *Transmission Network Service Provider*,
- (i) Where a *connection agreement* provides that compensation is payable by a *Transmission Network Service Provider* to an *market participant* as

a result of a network replacement or reconfiguration, the terms of and rate of compensation payable by the Transmission Network Service Provider must be reasonable.

Insert into Schedule 6.2(3)

When determining the costs of transmission network assets (other than new transmission network investment allocated to Generators), where an asset forms part of a network replacement or reconfiguration and compensation is payable by a Transmission Network Service Provider pursuant to Clause 5.3.4B or a connection agreement, the cost allocated may include the cost of compensation payable by the Transmission Network Service Provider arising from that network replacement or reconfiguration.

In Chapter 10 insert clause (f) into "Pass through event"

**"Pass through event" –**

Any one of the following events:

- (a) an Insurance Event;
- (b) a Service Standard Event;
- (c) a Tax Change Event;
- (d) a Terrorism Event;
- (e) a Network (Grid) Support Event; or
- (f) a Network Replacement or Reconfiguration Compensation Event.

In Chapter 10 insert *network replacement or reconfiguration* event

An occurrence which:

- (a) requires a Transmission Network Service Provider to provide compensation to a market participant as a result of a network replacement or reconfiguration;
- (b) results in the Transmission Network Service Provider incurring Materially higher costs in providing prescribed transmission services than it would have incurred but for that occurrence; and
- (c) allowance was not made in the revenue cap determination for the cost of the compensation.

**Changes to be made to the draft Chapter 6 Rules released by the AEMC**

Insert subclause (xi) into Clause 6.2.6(b)(3)

- (xi) reasonable estimates as to any compensation likely to be payable by the Transmission Network Service Provider to a market participant as a result of a network replacement or reconfiguration.