Transmission Cost Estimate for the Maximum Reserve Capacity Price for 2013/14

15 November 2010

ABN 18540492861

1 Introduction

This document provides indicative costs to connect a 160 MW OCGT to the 330 kV System at various nominated locations in the SWIS in accordance with the Market Procedure for Determination of Maximum Reserve Capacity Price (MRCP). Western Power is required to provide these estimates in accordance with section 1.8.2 of the procedure:

The Transmission Connection Cost Estimate shall be developed on the following basis:

(a) The capital cost (procurement, installation and commissioning, excluding land cost) of a generic, industry standard 330 kV substation that facilitates the connection of the Power Station will be estimated.

(b) The estimate will include all the components and costs associated with a standard substation.

(c) The estimated cost will be based on a generic three breaker mesh substation configured in a breaker and a half arrangement.

(d) The substation will be located adjacent to an existing transmission line and include an allowance for 2 km of 330 kV overhead single circuit line to the power station that will have one road crossing.

(e) It shall be assumed that the transmission connection to the Power Station will be located on 50% flat - 50% undulating land, 50% rural - 50% urban location and there will be no unforeseen environmental or civil costs associated with the development.

(f) The connection of the substation into the existing transmission line will be turn-in, turn-out and will be based on the most economical (i.e. least cost) solution. It is assumed that the existing transmission line will not require modification to allow the connection with the exception of one new tower located at the substation to allow a point of connection.

(g) Costs associated with any staging works will not be considered.

(h) Shallow connection easement costs will be considered.

(i) An estimate of deep connection costs shall be included.

In determining transmission connection costs for the MRCP Western Power has generally interpreted the requirements of the market procedure to reflect the costs a proponent would typically have to bear to connect to the SWIS consistent with the Western Power Access Arrangement approved by the Economic Regulation Authority (ERA). This would typically include 100% of the cost of connection assets and a capital contribution for any required augmentations to the shared transmission network. Included are estimates of deep connection costs and also costs to extend the 330kV system to the locations nominated in the market procedure.

Any capital contribution required from a new generator would be dependent on the amount of network investment that may or may not pass the New Facilities Investment Test (NFIT) which would ultimately be determined by the ERA. For the purpose of estimating capital contributions for new generators in the determination of the MRCP, Western Power has used its preliminary NFIT assessment and has assumed pro-rata costs for new generators based on capacity.

For details of further considerations please see Section 4 of this report.

2 Current Network Limitations

The SWIS, in its current form, can be characterised as highly meshed between the 330kV and 132kV networks. There is currently a heavy reliance on the 132kV transmission lines to transfer power directly from generation in parallel to the 330kV bulk system. Recent system study results confirmed that approximately 700MW of power is running through 132kV south networks resulting in reduced utilisation of the 330kV system.

The maximum capacity has been reached for the meshed 66kV and 132kV network arrangement. Under normal operating conditions, the peak load on the 330kV lines is generally approaching 35% of line capacity with approximately 20% of SWIS demand flowing through the meshed 132kV network.

The current highly meshed 330kV and 132kV network results in the following emerging issues and constraints:

- overloading of the 132kV meshed network under contingency conditions;
- controllability of power flows is reduced;
- need for increased reactive support at 66kV and 132kV levels under contingency conditions;
- increased 132kV line losses; and
- high 132kV fault levels across major terminals and some zone substations.

The highly meshed nature of the 132kV network also results in significant difficulties with controlling power flows to avoid post-contingent overloading of lines on 132kV transmission lines.

Due to the parallel nature of the 330kV and 132kV systems, generation connecting to the SWIS at the 330kV level may necessitate reinforcement of both the 330kV and 132kV networks. The 132kV network reinforcements are necessary to remove the constraints existing on the 132kV system which are currently acting as bottlenecks to power transfers.

Western Power has adopted the following overarching network development strategies to address the emerging issues and constraints:

- transfer the bulk transmission role exclusively to the 330kV system via reconfiguration and reinforcement of the 132kV network;
- remove shortfalls in the 132kV capacity to supply load centres; and
- utilise the existing 330kV capacity for bulk transmission purposes.

Although the deep connection costs (discussed in Chapter 3.3) adhere to the network development strategies, the assumptions made for the purposes of this response preclude it from representing Western Power's actual network development plan in the future.

For more information on the emerging issues and the current state of the SWIS, please refer to the 2010 Annual Planning Report, available on the Western Power website.

3 Assumptions for MRCP Transmission Costs

Western Power is providing information on the costing to connect generation in accordance with the requirements of the Market Rules. The process used for the development of transmission costs is not proposed by Western Power as a definitive method to determine an economically efficient outcome in respect of the WEM and reserve capacity payments. In fact Western Power recognises some limitations in the current process and the design of the WEM and the Transmission Cost Estimate must consequently be considered in light of these. In determining the transmission connection costs for the determination of the MRCP it is necessary to make some judicious assumptions (both technical and economic) and these are discussed briefly below. Further high level comment is also provided in Appendix A.

3.1 Estimating and Planning Assumptions

The Network Planning and Development Branch of Western Power have provided estimates of deep connection costs. The allocation of these costs has to further consider the reinforcements driven by load growth and the reinforcement triggered by the generation, in order to determine an appropriate capital contribution consistent with the Access Code and Western Powers Contributions Policy.

The determination of the reinforcements required is based on work currently being undertaken for Western Powers' published Annual Planning Review and the capital works forecasts being prepared for Western Powers' upcoming Access Arrangement submission (AA#3).

The assumptions that will be used to determine the reinforcement required to support the additional generation will be as follows:

- Determine reinforcement requirement to connect 160 MW OCGT at the required location in 2013/14.
- The costings provided do not consider the impact of the queuing policy. It assumes that there is only one generator of 160 MW wanting to connect at a specific location.
- The reinforcements are the minimum to connect in 2013 with no consideration of future network participants.
- The same connection works are assumed for each location.
- The pricing is based on A0 building block cost estimate tool. No system studies have been performed to confirm the reinforcement optimised for the proposed connection.
- The connection at the proposed sites and the proposed reinforcements do not reflect existing network development plans.
- Where it is obviously impractical to provide unconstrained access under N-1 conditions (such as in Kalgoorlie) some system constraints have been assumed. (Specific exceptions are noted for each location later in this document.)

3.2 Western Powers' Contributions Policy and NFIT

Actual transmission connection costs are governed by the Access Code 2004, the New Facilities Investment Test (NFIT), and Western Powers' Access Arrangement, and Contributions Policy approved by the ERA.

In accordance with section 5.2 of Western Powers' contributions policy, a contribution payable by a customer for any works is calculated by:

- determining the appropriate portion of any of the *forecast costs* of the *works* which do not meet the *new facilities investment test,*
- adding any applicable costs related to ensuring *technical rules* compliance for the network,
- adding the full *costs* of any *works* to provide *connection assets*, and the full amount of any *non-capital costs* that Western Power incurs acting efficiently in accordance with *good electricity industry practice*,
- acting as a *reasonable and prudent person*, Western Power may determine that the costs be allocated to the applicant and other users based on the relative use of the *works (in accordance with section 5.4),*
- deducting the amount likely to be recovered in the form of *new revenue* gained from providing *covered services* to the *applicant*, as calculated over the reasonable time, at the *contributions rate of return*.

Western Power does not believe all of the investments used for the calculation of the MRCP demonstrate the efficient development of the network, and any capital contribution required from a new generator would be largely dependent on the amount of network investment that may or may not pass the New Facilities Investment Test which would ultimately be determined by the ERA.

For the purpose of estimating capital contributions for new generators in the determination of the MRCP, Western Power has assumed pro-rata costs of the required new augmentations for new generators based on capacity.

3.2.1 Use Of System Prices for Contributions Calculation

A fundamental component required to calculate a contribution payable by a customer for any works is the assessment of *new revenue* gained from providing *covered services* to the *applicant*. For this purpose, Western Power has made prudent estimates of what the Transmission Use of System Price will be in the relevant capacity year. In calculating the *new revenue*, Western Power has assumed the price rises in accordance with the current approved *access arrangement* but has assumed flat prices thereafter.

3.3 Ability to reinforce by 2013

Western Power believes it is well understood that transmission augmentation projects typically have longer lead times than generation developments. The current planning practice is most often to respond to the addition of new generation once it is approved and the project becomes firm. Applications for large generators can take 12-18 months to complete and major construction works are typically 2 to 3 years. Consequently, it could not necessarily be expected that all required network augmentations used to develop the costing information in this report could be built in time for the system peak demand in 2013/14.

Western Power has consequently assumed this scenario is accepted since the timings are understood and fundamental to the MRCP process, and has not included any additional loadings to fast track any required transmission augmentation projects. Consequently, the estimates provided for some of the required locations do not provide for unconstrained access under N-1 conditions in accordance with the Technical Rules under all conditions at the time of generator commissioning.

3.4 Real Dollars

The costing information provided is based on today's dollars.

3.5 Actual Costs

It should be noted, that in accordance with the market procedure the estimates provided are for a hypothetical development which may not represent actual costs should the development proceed.

4 Transmission Network Costs

In summary, in accordance with the MRCP Procedure, the Transmission Connection Cost Estimate is to include all costs a proponent is expected to incur for the following:

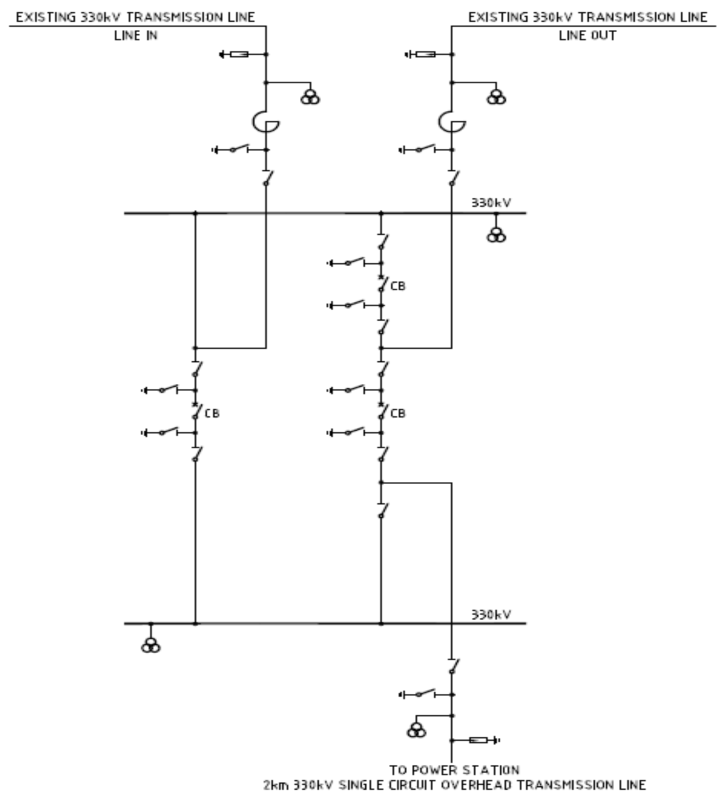
- substation,
- an allowance for 2 km of overhead line to the power station, and
- deep connection (or shared network).

Each of these cost components are discussed below:

4.1 Substation

In accordance with the Market Procedure the Transmission Connection Cost Estimate should include the cost of a generic three breaker mesh substation configured in a breaker and a half arrangement. The connection of the substation into the transmission line should be turn-in, turn-out and will be based on the most economical (i.e. least cost) solution. The typical three-switch mesh 330 kV substation configuration which has been used recently in the SWIS has been assumed as shown in the single line diagram below.

Substation Single Line Diagram



The three-switch mesh 330 kV substation configuration would be substantially treated as shared assets because of the cut-in, cut-out arrangement. Accordingly, most of the cost of the substation would be included with other shared assets (if any are applicable) in the contribution calculation.

The table below lists the estimated costs of a typical new substation. It should be noted that the estimate does not include the cost of the land nor does it take into account any site specific details.

Total Substation Cost

Description	Metro Construction[1]
330kV Breaker & Half, 3xCircuit Breakers, 3xGantry, 2xCircuits	$5,020,000
Site Works - Terminal Station 1 Yard (3 Bays)	$3,243,000
Terminal Relay Room	$2,586,000
TOTAL	$10,849,000

In the substation, the generator line bay connection and one circuit breaker in one bay are typically considered to be connection assets for which the costs are 100% borne by the proponent. Typically these costs are expected to be approximately 10% of the cost of this particular substation configuration. The total substation costs are consequently allocated as follows.

Allocation of Substation Costs

Description	Metro Construction[2]
Connection Assets (Bay works that are connection works including meter, disconnector, gantry and surge arrestors etc.)	$1,084,900
Shared Assets	$9,764,100

[1] For country construction increases see Rawlinson's Australian Construction Handbook 2009 P30 E.G. Bunbury 105%, Collie 115%, Kalgoorlie 135%, Geraldton 110%, Kambalda 140%, etc.
[2] See note above for country construction costs

4.2 Overhead Line to Power Station

In accordance with the MRCP Procedure the Transmission Connection Cost Estimate should include the cost for 2 km of 330 kV overhead single circuit line to the power tation that will have one road crossing. It shall be assumed that the transmission connection to the Power Station will be located on 50% flat - 50% undulating land, 50% rural - 50% urban location and there will be no unforeseen environmental or civil costs associated with the development.

For the customer's contribution calculation, this transmission line would be considered as a connection asset for which the costs are 100% borne by the proponent. The table below lists the estimated costs of the 2km transmission line connection.

Connection Transmission Line Costs

Description	Cost
Connection Assets (Two kilometres of single circuit steel towers to connect the generator)	$7,904,000

4.3 Shared Network

The locations for new generation that need to be considered are:

- Collie Region
- Kemerton Industrial Park Region
- Pinjar Region
- Kwinana Region
- North Country Region (Eneabba and Geraldton)
- Kalgoorlie Region

4.3.1 Collie and Kemerton

The costing for the Collie and Kemerton region both consider the following network reinforcements. The network requirements can be considered electrically the same, and will not provide any significant difference.

There are substantial power flows through the existing 132kV meshed south west network into the metropolitan area, creating risk of thermal overloads under contingency conditions. Numerous 132kV transmission lines are reaching their thermal capacity limits, while at the same time due to the highly meshed nature of the Network the 330kV bulk network from Muja to Kemerton Terminal, and from Muja to the Metro region is not being fully utilised.

Post-contingent power flows on certain 132kV lines into the south west area are in excess of thermal capacity as a result of the power flow from the south-west into the metropolitan area.

Reconfiguration of the existing 132kV system to fulfil a future new role of efficiently supplying the south west from the nearby Kemerton Terminal is a supporting strategy for the area.

The proposed generation will require additional reactive support and the reconfiguration of the 132kV network south of Kwinana and Southern Terminal to improve power flows through the 330kV and 132kV network, in addition to mitigating thermal and fault level issues.

- Proposed generation to cut into the Muja to Kemerton 330kV line

- Installation of a Northern Terminal SVC
- Reconfigure 132kV network south of Kwinana and Southern Terminal:
  - Build 132kV double circuit to connect Worsley-Picton line to Muja-Bunbury Harbour line (~5kms)
  - Creation of a Bunbury Harbour to Picton 132kV ring
  - Creation of a Worsley to Muja 132kV ring
  - Build a 132kV double circuit from Kemerton to Picton (~28kms)
  - Build a 132kV double circuit from Wagerup to Landwehr Terminal (~12kms)
- Install two 330/132kV 200MVA transformers at Landwehr Terminal
- Install 200Mvar of Reactive Compensation on the 132kV Metro Network

4.3.2 Pinjar

The existing 132kV network is approaching its thermal constraints due to the large load concentration in the north metro region, with numerous 132kV transmission lines approaching thermal limits under contingency conditions.

There are numerous sites in the area which are also operating at fault limits. The connection of new generation is likely to trigger fault level upgrades at multiple sites across the network.

The proposed generation will require 330kV infrastructure at Pinjar and Neerabup to facilitate the connection. The reconfiguration of the 132kV network in the north metro and Neerabup region will help improve power flows through the 330kV and 132kV network in addition to mitigating thermal issues.

- Proposed generation to cut into Pinjar
- Existing 132kV lines (built for 330kV operation) to be operated at 330kV from Neerabup and Northern Terminal
- Pinjar Terminal Reinforcement including 2 x 330/132kV 490MVA transformer and 132kV line works in the area (~2km)
- Install a second 330/132kV 490MVA transformer at Neerabup Terminal
- Reconfigure the Northern Terminal and Neerabup 132kV networks by building a:
  - Double Circuit 132kV from Padbury to Mullaloo (~3kms)
  - Double Circuit 132kV from Mullaloo to Landsdale/Neerabup transition (3kms)
  - Double Circuit 132kV from Neerabup to Mullaloo/Landsdale transition (~12kms)
  - Single Circuit 132kV from Neerabup, Landsdale, Mullaloo transition (~4kms)
  - Single Circuit 132kV from Landsdale to Mullaloo/Neerabup transition (~5kms)

4.3.3 Kwinana

The highly meshed network south of Kwinana and Southern Terminal is effectively constraining transmission system transfer capability.

Large amounts of power currently flow through the meshed 132kV into the metro area through the south metro network, resulting in numerous 132kV transmission lines approaching thermal capacities.

Fault levels in the region are also at limits, requiring significant reconfiguration and splitting of near by networks to reduce fault levels.

The proposed generation will require 330kV infrastructure at Kwinana and an inland terminal proposed at Byford. Additional reactive support and the reconfiguration of the 132kV network south of Kwinana and Southern Terminal to improve power flows through the 330kV network and 132kV network and address thermal and fault issues is considered.

- Proposed generation to cut into new the Kwinana – Northern Terminal 330kV line
- Split the Fremantle and Kwinana networks at Cockburn Cement
- Eliminate the Cockburn to Byford transmission link
- Install a 330/132kV 490MVA transformer at Kwinana
- Create open point at Pinjarra on the Picton line
- Build a double circuit 132kV line from Kwinana to Mandurah (~44kms)
- Establish 330/132kV terminal at Byford:
    - Install a 330/132kV 490MVA transformer
    - 330kV Line Cut-In (2 lines, ~2kms each)
    - 132kV Line Cut-In (2 lines, ~5kms each)

4.3.4 Eneabba

The existing system supplying Eneabba is presently operating close to its capacity and the underlying future load growth will result in voltage stability constraints and transmission lines reaching their thermal capacities.

Significant 330kV development will be required in the area, along with the supporting strategy of reconfiguring 132kV networks in the north metro area (similar to the Pinjar connection).

The proposed generation will require Stage 1 of the Midwest Energy Project and additional 330kV infrastructure at Pinjar and Neerabup to support the connection. The reconfiguration of the 132kV network in the north metro and Neerabup region will help improve power flows through the 330kV and 132kV network and mitigate thermal issues.

To meet the requirements for Eneabba:

- Proposed generation to cut in, north of Eneabba
- Midwest Energy Project Stage 1 (without Three Springs Terminal)
- Pinjar Terminal Reinforcement including 1 x 330/132kV 490MVA transformer and 132kV line works in the area (~2km)
- Install a second 330/132kV 490MVA transformer at Neerabup
- Reconfigure the Northern Terminal and Neerabup 132kV networks by building a:
    - Double Circuit 132kV from Padbury to Mullaloo (~3kms)
    - Double Circuit 132kV from Mullaloo to Landsdale/Neerabup transition (3kms)

- Double Circuit 132kV from Neerabup to Mullaloo/Landsdale transition (~12kms)
- Single Circuit 132kV from Neerabup, Landsdale, Mullaloo transition (~4kms)
- Single Circuit 132kV from Landsdale to Mullaloo/Neerabup transition (~5kms)

4.3.5 Geraldton

The existing limitations on the network supplying Geraldton are similar to those affecting Eneabba and Pinjar, as they share the same supply corridor and infrastructure bottleneck. Additional voltage stability and thermal constraints will surface on the lines supplying Geraldton from Eneabba.

Similar network augmentations will arise as those in the Eneabba scenario, with the additional requirement for added reinforcement of network supply from Eneabba to Geraldton.

The proposed generation will require Stage 1 of the Midwest Energy Project and additional 330kV infrastructure at Pinjar and Neerabup to support the connection. An additional 330kV single circuit line is also required form Geraldton to Eneabba.

The reconfiguration of the 132kV network in the north metro and Neerabup region will help improve power flows through the 330kV and 132kV network.

- Proposed generation to cut in, north of Eneabba
- Single circuit 330kV line from Geraldton to Eneabba
- Midwest Energy Project Stage 1 (without Three Springs Terminal)
- Pinjar Terminal Reinforcement including 1 x 330/132kV 490MVA transformer and 132kV line works in the area (~2km)
- Reconfigure the Northern Terminal and Neerabup 132kV networks by building a:
  - Double Circuit 132kV from Padbury to Mullaloo (~3kms)
  - Double Circuit 132kV from Mullaloo to Landsdale/Neerabup transition (3kms)
  - Double Circuit 132kV from Neerabup to Mullaloo/Landsdale transition (~12kms)
  - Single Circuit 132kV from Neerabup, Landsdale, Mullaloo transition (~4kms)
  - Single Circuit 132kV from Landsdale to Mullaloo/Neerabup transition (~5kms)

4.3.6 Kalgoorlie

The Kalgoorlie region considers the connection of the 160 MW generator and the following network reinforcements.

The existing 220kV network to Kalgoorlie is a 650km radial transmission line equipped with large amounts of reactive support. Transfer capacity of the 220kV interconnection is limited by synchronous and voltage instability issues.

As no 330kV network exists in Kalgoorlie to facilitate the connection of the generator, new 330kV infrastructure is required to be constructed in the region. An additional switching station is required for voltage control during periods of switching.

It should be noted that the single 330kV circuit will not meet the Technical Criteria required for 330kV lines and substations.

The following network reinforcements are considered:

- Build a new 330kV single circuit transmission line from Guildford to Kalgoorlie (~600km's)
- Build a new switching station near Merredin with 250Mvar shunt reactors

4.3.7 Summary (Shared Network Costs)

	Shared Network Cost ($M)
Collie	$148.2
Kemerton	$147.1
Pinjar	$140.1
Kwinana	$165.5
Eneabba	$405.8
Geraldton	$708.3
Kalgoorlie	$658.0

5 Transmission Connection Cost Estimate

Capital Contributions have been calculated for each of the MRCP sites in accordance with Western Powers Contributions Policy and the assumptions detailed in this document. The standard Western Power "Tariff Calculator" and Capital Contributions spreadsheets were utilized, and in determining the total costs certain other assumptions were required including:

Transmission Use of System prices at the new substation were assumed to be an average of other similar nearby substations, operations and maintenance costs for both connection and shared assets are a fixed percentage of the capital cost of the assets. The current value is 2.1% for transmission assets. The Transmission Connection Cost Estimate is equal to the expected Total Capital Contribution in the table below:

	Total Shared Network Costs $k	**Shared Network Cost for 160MW Generator** $k	**Shared Substation Cost for 160MW Generator** $k	**Total Shared Costs** $k	**Deep Connection Costs** Gen CapCon for Total Shared Costs (ex GST) [A] $k	**Shallow Connection Cost** (ex GST) [B] $k	**Transmission Cost Estimate** [A]+[B] $k
Pinjar	140,100	112,080	9,764	121,844	121,844	8,989	**130,833**
Kwinana	165,500	52,960	9,764	62,724	62,724	8,989	**71,713**
Kemerton	147,100	33,632	10,252	43,875	36,704	9,043	**45,747**
Collie	148,200	33,874	11,229	45,103	36,328	9,152	**45,480**
Geraldton	708,300	566,640	10,741	577,381	577,381	9,097	**586,478**
Eneabba	405,800	324,640	11,229	335,869	335,869	9,152	**345,021**
Kalgoorlie	658,000	300,800	13,182	313,982	313,982	9,369	**323,351**

Appendix A. Comments on Market Design

A.1 Deep Connestion Costs

Deep connection costs provide the most significant locational signal which is important to encourage economic efficiency, and they are determined assuming an unconstrained network as required by the fundamental design of the WEM. The ERA Annual Wholesale Electricity Market Report for the Minister for Energy of 5 November 2008 states: "The Authority believes that a continuation of the unconstrained network policy will make progress on new connections and network accountability very difficult to achieve and could be expected to lead to continually rising costs. A move to a constrained network approach is likely to see cheaper and faster new connections, but would require fundamental market redesign. In particular, the operation of the reserve capacity mechanism in ensuring that sufficient capacity enters the market would need to be reconsidered."

Western Power has previously discussed the advantages of considering network planning processes as part of longer term State development plans in order to promote optimal outcomes. Such an approach should allow for issues related to fuel, environment, electricity and energy infrastructure to be considered with a view to determine suitable locations for future generation plant and industry. Under this approach, network development could be planned more accurately, providing new generators with a greater degree of certainty about the capacity of the network to cater for new projects.

However given the current WEM regime, with the existing large number of applications for network access, and the uncertainty in regard to which applications will proceed, it is increasingly difficult to plan and estimate definitively for adequate network reinforcements.

A.2 Unconstrained Access Policy

The queuing policy requires Western Power to provide access on a first come first serve basis. If a particular part of the network had capacity for 160 MW then this could be taken up by a 160 MW wind farm that is only allocated capacity credits of 64 MW. This is as a result of the unconstrained connection approach where sufficient network capacity has to be reserved for 100% of the output of the wind farm.

If we were to operate a constrained network then it would be possible to connect more generation at all parts of the network. For a part of the network that had 160 MW of spare capacity it would be possible to connect a 160 MW wind farm and a 160 MW gas turbine that would provide a total capacity credit of 160 MW, regardless of the queuing policy. There would need to be a method of resolving the dispatch under the constraint but under normal conditions we could dispatch at least 160 MW of generation. Under some conditions it may also be possible to dispatch more than 160 MW. Adopting a constrained access process could lead to reduced generation costs and more efficient utilisation of the network.

A.3 Treatment of Generation Retirements

Another issue is a requirement to maintain the network to allow for the DSOC of all generation. This requires Western Power to maintain network capacity for as long as a generator pays their transmission use of system charges regardless of whether the generator is operational.

The network has potential for capacity to be freed up with the retirement of plant. Under the current arrangement the reinforcement requirements are based on all generators with a DSOC being in service and generating up to their DSOC value. Under a constrained access model, retirement of plant would allow the connection of new generation to support additional load without the need for network reinforcement. This could have a significant impact on the network charges for connection.

Appendix B. Estimated Access Charges

In accordance with section 3.2.1 of this report, estimates for transmission access prices are as follows:

Transmission Use of System Prices:	**c/day/kW**
Pinjar	1.829
Kwinana	2.096
Kermerton	3.371
Collie	3.515
Walkaway	4.039
Emu Downs	3.321
West Kalgoorlie	2.941

Control System Service Charge (for generators) 0.211 c/day/kW

Metering Unit Charges 4783.44 c/day/unit