

**Revised Proposed Access  
Arrangement  
for the  
South West Interconnected Network  
owned by Western Power**

**Submitted by Western Power  
19 May 2006**

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# 1 Introduction

## Purpose of this document

- 1.1 This document is the *revised proposed Access Arrangement* ("Access Arrangement") setting out the terms and conditions under which Western Power will provide *users* and *applicants* with *access* to the South West Interconnected Network (SWIN). The SWIN is the portion of the South West Interconnected System (SWIS) that is owned and operated by Western Power. The SWIN is a *covered network* from the *Code commencement date*, unless *coverage* has subsequently been revoked under section 3.30 of the Code.
- 1.2 The Code was established by the Minister for Energy for the State of Western Australia, under section 104(1) of the *Electricity Industry Act 2004*, and came into operation on 30 November 2004. This *Access Arrangement* has been prepared in accordance with the Code and is submitted in accordance with section 4.16 of the Code.
- 1.3 This *Access Arrangement* is lodged by Western Power on 19 May 2006 for review and approval by the *Authority* in accordance with the processes and criteria set out in the Code.

## Proposed Access Arrangement start date

- 1.4 This *Access Arrangement* is effective from 1 July 2006 or a later date as specified by the Authority in accordance with section 4.26 of the Code.

## Revisions submission date and target revisions commencement date

- 1.5 Pursuant to section 5.29(a) of the Code, the *revisions submission date* for this *Access Arrangement* is 1 October 2008.
- 1.6 Pursuant to section 5.29(b) of the Code, the *target revisions commencement date* for this *Access Arrangement* is 1 July 2009.

## Composition of this Access Arrangement

- 1.7 This *Access Arrangement* comprises this document together with:
  - (a) the *Applications and Queuing Policy* attached at Appendix 1;
  - (b) the *Transfer and Relocation Policy* attached at Appendix 2;
  - (c) the *Capital Contributions Policy* attached at Appendix 3;
  - (d) the *Standard Access Contract*, termed the *Electricity Transfer Access Contract* attached at Appendix 4;
  - (e) the *price list* attached at Appendix 5, which describes the *reference tariff* payable under an *access contract* for each *reference service*;
  - (f) the *price list information* attached at Appendix 6, which explains how Western Power derived the elements of the proposed *price list*, and demonstrates that the *price list* complies with the *Access Arrangement*;
  - (g) the details of the *reference services* offered by Western Power attached at Appendix 7; and

- (h) explanatory notes regarding the price control arrangements attached at Appendix 8.

## **Relationship to technical rules and access arrangement information**

- 1.8 The *technical rules* do not form part of this *Access Arrangement*, although the *technical rules* are relevant in determining Western Power's *target revenue*. The *technical rules* are submitted by Western Power in accordance with Chapter 12 of the Code, and processed by the *Authority* in parallel with this *Access Arrangement*.
- 1.9 Western Power's *amended access arrangement information* is submitted by Western Power on 19 May 2006, alongside this *Access Arrangement* in accordance with section 4.4 of the Code. The *amended access arrangement information* does not form part of this *Access Arrangement*.

## **2 Definitions and interpretation**

- 2.1 In sections 1 to 10 of this *Access Arrangement*, where a word or phrase is italicised it has the definition given to that word or phrase in the *Code*, unless the context requires otherwise.
- 2.2 In each of the Appendices to this *Access Arrangement*, a separate glossary of terms is provided where appropriate, and the definitions contained in those separate glossaries apply to the relevant appendix, unless the context requires otherwise.

## **3 Reference Services, Non-Reference Services and Service Standard Benchmarks**

### **Purpose**

- 3.1 Pursuant to section 5.2 of the *Code*, this section of the *Access Arrangement* describes the *reference services* offered by Western Power.
- 3.2 Pursuant to section 5.6 of the *Code*, this section also describes the *service standard benchmarks* applicable to the *reference services*.
- 3.3 This section also provides information in relation to *non-reference services*.

### **Reference services**

- 3.4 *Reference services* are provided to *users* in accordance with the terms and conditions of their respective *access contracts*.
- 3.5 Western Power offers 11 *reference services* at *network exit points*:
- |  |    |
|--|----|
| 1. Anytime Energy (Residential) Exit Service | A1 |
| 2. Anytime Energy (Business) Exit Service    | A2 |
| 3. Time of Use Energy (Small) Exit Service   | A3 |
| 4. Time of Use Energy (Large) Exit Service   | A4 |
| 5. High Voltage Metered Demand Exit Service  | A5 |
| 6. Low Voltage Metered Demand Exit Service   | A6 |

- |  |  |     |
|--|--|-----|
|  | 7. High Voltage Contract Maximum Demand Exit Service | A7  |
|  | 8. Low Voltage Contract Maximum Demand Exit Service  | A8  |
|  | 9. Streetlighting Exit Service                       | A9  |
|  | 10. Un-Metered Supplies Exit Service                 | A10 |
|  | 11. Transmission Exit Service                        | A11 |
- 3.6 Western Power offers two entry services as *reference services*:
- |  |                               |    |
|--|-------------------------------|----|
|  | 1. Distribution Entry Service | B1 |
|  | 2. Transmission Entry Service | B2 |
- 3.7 Appendix 7 of this *Access Arrangement* provides details of each reference service, including:
- a description of the *reference service*;
  - user eligibility criteria;
  - the applicable *reference tariff*;
  - the applicable *standard access contract*; and
  - the applicable *service standard benchmark*.

### **Price list and price list information**

- 3.8 The *price list* in respect of the financial year commencing on 1 July 2006 is attached at Appendix 5.
- 3.9 The *price list* is to be updated annually in accordance with Chapter 8 of the *Code*.
- 3.10 In accordance with section 8.1 of the *Code* this *Access Arrangement* requires Western Power to submit a proposed *price list*, together with *price list information*, to the *Authority* for approval at least 45 *business days* before the start of each *pricing year* (except for the first *pricing year*).

### **Side constraints on reference tariff movements**

- 3.11 For each year of this *access arrangement period*, Western Power will not increase or decrease any *reference tariff* by more than CPI+5% per annum. For *reference services* A1 to A10 and B1, Western Power will give effect to this side constraint by ensuring that no tariff component increases or decreases in any financial year by more than CPI+5% per annum.

## Non-reference services

3.12 The table below lists the non-reference services provided by Western Power.

Non Reference Service
Relocation of Transmission assets at the request of a user
Relocation of Distribution assets at the request of a user
Electricity Network Planning Studies
Re-inspection of a customer's facilities and equipment by a Western Power Inspector
Rental of properties (including commercial & residential) that are in the capital base
Profit on sale of assets
Establishment and removal of a Temporary Builders Supply
Planning for and providing an escort for movement of high loads
Temporary removal of overhead service lead for work at a customer's premises
Insulate and make safe aerial conductors
Disconnection/Reconnection of overhead service leads or underground consumer mains at a customer's request
User Network Switching Services at the request of a user (on Western Power's asset)
Jointly Owned Asset works
Provide expertise to enable work to be undertaken in the vicinity of power lines
Sale of network schematics
Services fees for Access Applications & Access Contracts
Costs recovered from asset damage due to a car accident, graffiti or vandalism
Extended metering services provided under the Metering Code Service Level Agreement
Access Billing Services Fees
Transition Access Services
Standby Access Services
Capital Works Application Fees

## Payment by users

3.13 In respect of *reference services*, *users* are required to pay the relevant *reference tariffs* specified in the *price list* in accordance with their *access contract*, unless the parties agree otherwise.

3.14 In respect of *non-reference services*, *users* are required to pay in accordance with Western Power's published terms and conditions, unless the parties agree otherwise.

## Service standard benchmarks

3.15 For the *reference services* A1 to A10 and B1 the *service standard benchmarks* are expressed in terms of System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI).

3.16 SAIDI is defined as follows:

<b>Performance Indicator:</b>	System Average Interruption Duration Index (SAIDI)
<b>Unit of measure:</b>	System minutes per annum
<b>Definition:</b>	Over a 12 month period, the sum of the duration of each sustained (greater than 1 minute) customer interruption (in minutes) attributable solely to distribution (after exclusions) divided by the average of the total number of connected <i>consumers</i> at the beginning and end of the period.
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>• Major event days in accordance with IEEE1366-2003 definitions as adopted by Steering Committee on National Regulatory Reporting Requirements (SCNRRR).</li> <li>• Outages shown to be caused by a fault or other event on the transmission system or a third party system (for instance, without limitation outages caused by an intertrip signal, generator unavailability or a customer installation).</li> <li>• <i>Force majeure</i> events.</li> </ul>

3.17 SAIFI is defined as follows:

<b>Performance Indicator:</b>	System Average Interruption Frequency Index (SAIFI)
<b>Unit of measure:</b>	Supply interruptions per annum
<b>Definition:</b>	Over a 12 month period, the total number of sustained (greater than 1 minute) customer interruptions (number) attributable solely to distribution (after exclusions) divided by the average of the total number of connected <i>consumers</i> at the beginning and end of the period.
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>• Major event days in accordance with IEEE1366-2003 definitions as adopted by Steering Committee on National Regulatory Reporting Requirements (SCNRRR).</li> <li>• Outages shown to be caused by a fault or other event on the transmission system or a third party system (for instance, without limitation outages caused by an intertrip signal, generator unavailability or a customer installation)..</li> <li>• <i>Force majeure</i> events.</li> </ul>



- 3.18 The *service standard benchmarks* expressed in terms of SAIDI for the *reference services* A1 to A10 and B1 for each year of the *first access arrangement period* are shown in the following table:

	<b>SWIN total</b>	<b>Urban</b>	<b>Rural</b>	<b>CBD</b>
June 2007	277	244	509	21.4
June 2008	259	229	476	20.0
June 2009	224	197	410	17.3

- 3.19 The *service standard benchmarks* expressed in terms of SAIFI for the *reference services* A1 to A10 and B1 for each year of the *first access arrangement period* are shown in the following table:

	<b>SWIN total</b>	<b>Urban</b>	<b>Rural</b>	<b>CBD</b>
June 2007	3.44	3.38	4.12	0.32
June 2008	3.22	3.16	3.85	0.30
June 2009	2.78	2.72	3.32	0.26

- 3.20 For the purpose of this *Access Arrangement*, the definition of CBD and urban feeder classifications is consistent with those applied in the National Regulatory Reporting for Electricity Distribution and Retailing Businesses. The rural feeder classification follows similar principles but represents an amalgamation of what is defined as Rural Short and Rural Long in the guidelines.

- 3.21 In respect of the *reference services* A11 and B2 available to *users* directly connected to the transmission network, the *service standard benchmarks* are expressed in terms of Circuit Availability and System Minutes Interrupted as defined below:

<b>Performance Indicator:</b>	Circuit Availability
<b>Unit of measure:</b>	Percentage of total possible hours available.
<b>Source of data:</b>	SCADA and System Operation Databases
<b>Definition/Formula:</b>	$\frac{\text{No of Hours per Annum Circuits are Available}}{\text{Total Possible No. of Circuit Hours}} \times 100$ <p>Definition: The actual circuit hours available for transmission circuits divided by the total possible defined circuit hours available.</p>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>Non-transmission primary equipment (primary equipment operating at voltages less than 66 kV, including zone substation power transformers)</li> <li>Tee configuration line circuits</li> <li>Unregulated transmission assets.</li> <li>Outages shown to be caused by a fault or other event on a '3rd party system' e.g. intertrip signal, generator outage, customer installation.</li> <li>Force majeure events.</li> <li>Duration of planned outages for major construction work is to be capped at 14 days in calculating transmission line availability.</li> </ul>
<b>Inclusions:</b>	<ul style="list-style-type: none"> <li>'Circuits' includes primary transmission equipment such as overhead lines, underground cables and bulk transmission power transformers.</li> <li>Circuit 'unavailability' to include outages from all causes including planned, forced and emergency events, including extreme events, but not including the events defined as exclusions.</li> </ul>
<b>Performance Indicator:</b>	System Minutes Interrupted (for both Meshed and Radial Transmission Network)
<b>Unit of measure:</b>	Minutes
<b>Source of data:</b>	SCADA and System Operation Databases
<b>Definition/Formula:</b>	$\sum \frac{\text{MW Minutes of Unserved Energy}}{\text{System Peak MW}}$ <p>(for both Meshed and Radial Transmission Network separately)</p> <p>Definition:</p> <p>System Minutes Interrupted (Meshed)- The summation of MW Minutes of unserved energy at substations which are connected to the meshed transmission network divided by the system peak MW.</p> <p>System Minutes Interrupted (Radial)- The summation of MW Minutes of unserved energy at substations which are connected to the radial transmission network divided by the system peak MW.</p>
<b>Exclusions:</b>	<ul style="list-style-type: none"> <li>Unregulated transmission assets.</li> <li>Outages shown to be caused by a fault or other event on a '3rd party system' e.g. intertrip signal, generator outage, customer installation.</li> <li>Force majeure events.</li> </ul>
<b>Inclusions:</b>	<ul style="list-style-type: none"> <li>All unserved energy due to outages on any primary transmission equipment including all overhead lines, underground cables, power transformers, static var compensators, capacitor banks, etc. including primary zone substation equipment.</li> <li>All unserved energy due to outages for forced and emergency events, including extreme events, but not including the events defined as exclusions.</li> </ul>

- 3.22 The *service standard benchmarks* for the *reference services* A11 and B2 available to users directly connected to the transmission network for each year of the *first access arrangement period* are set out in the following table.

	First access arrangement period		
	Year ending June 2007	Year ending June 2008	Year ending June 2009
<b>Circuit Availability (% of total time)</b>	98.2	98.2	98.2
<b>System Minutes Interrupted (meshed network)</b>	7.8	7.8	7.8
<b>System Minutes Interrupted (radial network)</b>	3.9	3.9	3.9

- 3.23 In respect of *reference service* A9 (“Streetlighting Exit Service”), where Western Power is responsible for the repair of faulty streetlights, the following *service standard benchmark* will apply in relation to repair times for reported faults (in addition to the *service standard benchmarks* in section 3.18 and 3.19 of this *Access Arrangement*).

	First access arrangement period		
	Year ending June 2007	Year ending June 2008	Year ending June 2009
<b>Perth Metropolitan area</b>	5 days	5 days	5 days
<b>Major regional towns</b>	5 days	5 days	5 days
<b>Remote and rural towns</b>	9 days	9 days	9 days

## 4 Excluded services

- 4.1 For the purpose of this *Access Arrangement*, there are no *excluded services*.

## 5 Price Control

### Form of price control

- 5.1 In accordance with section 6.3 of the *Code*, Western Power proposes a revenue cap for *covered services* that is set by reference to Western Power's *approved total costs*.
- 5.2 The calculation of Western Power's *approved total costs* has been undertaken in accordance with the methodology contained in the Authority's revenue model, with the exception of working capital where Western Power has included an allowance. The financial parameters set out in this *Access Arrangement* have been derived using this methodology, which calculates *approved total costs* in accordance with the *Code* requirements.

- 5.3 Explanatory notes to the price control arrangements are set out in Appendix 8 of this *Access Arrangement* should the need for further explanation of these arrangements arise.

### **Adjusting target revenue for unforeseen events**

- 5.4 If a *force majeure event* occurs which results in Western Power incurring *unrecovered costs* during the *first access arrangement period* then Western Power will, as part of its proposed *access arrangement* for the next *access arrangement period*, provide a report to the Authority setting out:
- (a) a description of the nature of the *force majeure event*;
  - (b) a description of the insurance cover that Western Power had in place at the time of the *force majeure event*; and
  - (c) a fair and reasonable estimate of the *unrecovered costs* borne by Western Power during the *first access arrangement period* as a result of the occurrence of the *force majeure event*.
- 5.5 In accordance with sections 6.6 to 6.8 of the *Code*, an amount will be added to the *target revenue* for the *covered network* for the next *access arrangement period* in respect of the *unrecovered costs* relating to a *force majeure event* which occurred in the *first access arrangement period*.
- 5.6 The determination by the Authority of any amounts under section 5.5 of this *Access Arrangement* must:
- (a) be based on the Authority's reasonable assessment of the report or reports provided by Western Power pursuant to section 5.4 of this *Access Arrangement*;
  - (b) be in accordance with the principles contained in section 4.28 of the *Code*;
  - (c) take account of the effects of inflation, both in this *access arrangement period* and the next *access arrangement period*; and
  - (d) take account of the time value of money as reflected by the real pre-tax WACC as applied in this *access arrangement period* and the next *access arrangement period*.

### **Adjusting target revenue for technical rule changes**

- 5.7 If the technical rules are amended during the *first access arrangement period*, Western Power will, as part of its proposed *access arrangement* for the next *access arrangement period*, provide a report to the Authority setting out:
- (a) a description of the nature and timing of the impact of the technical rule change on Western Power's operating and capital costs for the *first access arrangement period*; and
  - (b) a fair and reasonable estimate of the additional costs (or cost savings) accruing to Western Power as a result of that technical rule change.
- 5.8 In accordance with sections 6.9 to 6.12 of the *Code*, the Authority will determine an amount to be added to the *target revenue* for the *covered network* for the next *access arrangement period* in respect of the costs arising from a technical rule change which occurred in the *first access arrangement period*.

- 5.9 If the technical rule change leads to a cost saving, then the Authority will determine an amount to be deducted from the *target revenue* for the *covered network* for the next *access arrangement period* in accordance with sections 6.9 to 6.12 of the *Code*.
- 5.10 The determination by the Authority of any amounts under sections 5.8 and 5.9 of this *Access Arrangement* must:
- (a) be based on the Authority's reasonable assessment of the report or reports provided by Western Power pursuant to section 5.7 of this *Access Arrangement*;
  - (b) be in accordance with the principles contained in section 4.28 of the *Code*;
  - (c) take account of the effects of inflation, both in this *access arrangement period* and the next *access arrangement period*; and
  - (d) take account of the time value of money as reflected by the real pre-tax WACC as applied in this *access arrangement period* and the next *access arrangement period*.

### **Investment adjustment mechanism**

- 5.11 In accordance with sections 6.13 to 6.18 of the *Code*, an *investment adjustment mechanism* applies in relation to this *Access Arrangement*. The calculation of the *investment adjustment mechanism* is explained in sections 5.49 to 5.53 and in Appendix 8 of this *Access Arrangement*.

### **Capital contributions adjustment mechanism**

- 5.12 A *capital contributions adjustment mechanism* applies in relation to this *Access Arrangement*. The purpose and operation of the *capital contributions adjustment mechanism* is explained in sections 5.32, 5.43 and Appendix 8 of this *Access Arrangement*.

### **Gain sharing mechanism and efficiency and innovation benchmarks**

- 5.13 In accordance with section 6.20 of the *Code*, a *gain sharing mechanism* will not apply with respect to this *Access Arrangement*.
- 5.14 In accordance with section 5.25 of the *Code*, no *efficiency and innovation benchmarks* will apply to this *Access Arrangement*.

### **Service standards adjustment mechanism ("SSAM")**

- 5.15 In accordance with section 6.30 of the *Code*, a *service standard adjustment mechanism* applies in relation to this *Access Arrangement*.
- 5.16 In accordance with section 6.29 of the *Code*, Western Power's performance during this *access arrangement period* will be measured annually against the performance ranges defined by the tables in sections 5.22, 5.23 and 5.24 of this *Access Arrangement*.
- 5.17 The tables in sections 5.22, 5.23 and 5.24 of this *Access Arrangement* define the lower and upper limits of normal network performance for the transmission and distribution networks. These upper and lower limits establish the range of network performance for these networks which is, for the purpose of the *service standard adjustment mechanism*, defined as *normal performance*.

- 5.18 Where Western Power's actual performance falls within the *normal performance* range, no action is required by Western Power or the Authority.
- 5.19 Where Western Power's actual performance falls outside the low or high limits of the *normal performance* range for any performance measure, Western Power is required to make a submission to the Authority within 40 business days of the end of the relevant financial year as follows:
- (a) where performance is superior, Western Power will explain the actions taken by Western Power's management, staff and contractors and any other factors that have led to the service improvement; or
  - (b) where performance is inferior, Western Power will explain the reasons for the poor performance and the corrective action taken or to be taken by Western Power to ensure that future performance is improved; and
  - (c) in either case, Western Power will indicate whether performance is expected to fall outside the *normal performance* range in future financial years.
- 5.20 At the next *access arrangement* review, the Authority will consider the submissions made by Western Power in setting new benchmarks and approving related capital and operating expenditure for the next *access arrangement period*.
- 5.21 For the avoidance of doubt, no financial penalties or bonuses will apply in the first or subsequent *access arrangement period* as a result of this *service standard adjustment mechanism*.
- 5.22 The table below establishes the *normal performance* range for transmission network performance.

**Transmission service standard – normal performance**

		Low Limit	High Limit
<b>Circuit Availability (%)</b>	2006/07	97.7%	98.7
	2007/08	97.7%	98.7
	2008/09	97.7%	98.7
<b>System Minutes Interrupted (meshed network)</b>	2006/07	7.0	8.6
	2007/08	7.0	8.6
	2008/09	7.0	8.6
<b>System Minutes Interrupted (radial network)</b>	2006/07	3.5	4.3
	2007/08	3.5	4.3
	2008/09	3.5	4.3

- 5.23 The table below establishes the *normal performance* range for distribution performance as measured by SAIDI.

**Distribution service standard as measured by SAIDI – normal performance**

		Low Limit	High Limit
<b>SAIDI - SWIN (Minutes)</b>	2006/07	249	305
	2007/08	233	285
	2008/09	202	246
<b>SAIDI - CBD (Minutes)</b>	2006/07	19	24
	2007/08	18	22
	2008/09	16	19
<b>SAIDI - Urban (Minutes)</b>	2006/07	220	268
	2007/08	206	252
	2008/09	177	217
<b>SAIDI - Rural (Minutes)</b>	2006/07	458	560
	2007/08	428	524
	2008/09	369	451

- 5.24 The table below establishes the *normal performance* range for distribution performance as measured by SAIFI.

**Distribution service standard as measured by SAIFI – normal performance**

		Low Limit	High Limit
<b>SAIFI - SWIN (Average interruptions per annum)</b>	2006/07	3.10	3.78
	2007/08	2.90	3.54
	2008/09	2.50	3.06
<b>SAIFI - CBD (Average interruptions per annum)</b>	2006/07	0.29	0.35
	2007/08	0.27	0.33
	2008/09	0.23	0.29
<b>SAIFI - Urban (Average interruptions per annum)</b>	2006/07	3.04	3.72
	2007/08	2.84	3.48
	2008/09	2.45	2.99
<b>SAIFI - Rural (Average interruptions per annum)</b>	2006/07	3.71	4.53
	2007/08	3.47	4.24
	2008/09	2.99	3.65

## Form of Price Control: Revenue Cap

- 5.25 In accordance with sections 6.1, 6.2(a) and 6.4 of the Code, the form of price control will be “revenue cap”, which has the objectives (amongst other things) of giving Western Power an opportunity to earn *target revenue* for the *access arrangement period* from the provision of *covered services*.
- 5.26 Separate revenue caps will apply in respect of the transmission network and the distribution network. The establishment of both revenue caps has been made by reference to the Western Power’s *approved total costs*.

## Transmission Network Revenue Cap

- 5.27 The Transmission Network Revenue Cap determines the maximum regulated transmission revenue ( $MTR_t$ ) for Western Power’s transmission network for each financial year  $t$ . Subject to the annual side constraints on reference tariff movements set out in section 3.11 of this *Access Arrangement*, Western Power will use its reasonable endeavours to ensure that the actual transmission regulated revenue in financial year  $t$  does not exceed the maximum transmission regulated revenue in financial year  $t$ .
- 5.28 The operation of the correction factor,  $TK_t$ , as described in sections 5.36 and 5.37 of this *Access Arrangement* will ensure that the MTR in year  $t$  is adjusted for any shortfall or over-recovery of actual transmission regulated revenue compared to the MTR in preceding years.
- 5.29 For the purposes of this Transmission Network Revenue Cap, Western Power’s actual regulated transmission revenue in financial year  $t$  comprises:
- (a) transmission revenue earned in relation to the provision of *reference* and *non-reference services* in financial year  $t$ , subject to section 5.33 of this *Access Arrangement*. Where a *reference* or *non-reference service* is provided jointly by Western Power’s transmission and distribution network businesses, the revenue earned must be allocated between the businesses in a fair and reasonable manner; and
  - (b) “Deemed capital contributions” in financial year  $t$  in respect of the transmission network, as set out in the table below. The deemed capital contributions equals the forecast capital contributions in this *access arrangement period*, which have been used by Western Power in its calculation of *target revenue* for this *access arrangement period*.

**Deemed capital contributions in financial year  $t$  in respect of the transmission network (\$ million real as at 30 June 06)**

2006/07	2007/08	2008/09
16.1	27.4	13.4

- 5.30 For the purposes of determining actual capital contributions as applied in section 5.32 of this *Access Arrangement*, Western Power will exclude any capital contributions where the relevant works have been provided on a competitive basis or where the terms and conditions have been negotiated in accordance with section 2.5 of the Code. The purpose of this provision is to provide Western Power and prospective connecting



parties with the option to negotiate connection contributions on a basis other than that contemplated by this *Access Arrangement*.<sup>1</sup>

- 5.31 No adjustments will be made to MTR in this *access arrangement period* to reflect any differences between the deemed capital contributions in respect of the transmission network and the actual capital contributions received during this *access arrangement period*.
- 5.32 An adjustment (positive or negative), termed the *Capital Contributions Adjustment Mechanism*, will be made to the *target revenue* for the next *access arrangement period* to reflect any difference between the deemed capital contributions in respect of the transmission network and the actual capital contributions received during this *access arrangement period*. The purpose of this adjustment is to correct for any under- or over-recovery of actual capital contributions received compared to the forecast of capital contributions (the deemed capital contributions) in this *access arrangement period*<sup>2</sup>. To give effect to this purpose, the adjustment (positive or negative) to the *target revenue* for the next *access arrangement period* must leave Western Power economically neutral as a result of any difference between the deemed capital contributions in respect of the transmission network and the actual capital contributions received during this *access arrangement period* by taking account of:
- (a) The effects of inflation, both in this *access arrangement period* and the next *access arrangement period*;
  - (b) The time value of money as reflected by the real pre-tax WACC as applied in this *access arrangement period* and the next *access arrangement period*; and
  - (c) The difference in the timing of the deemed and actual capital contributions received in this *access arrangement period*, and the period over which any adjustment to *target revenue* is to be made.
- 5.33 For the avoidance of doubt, revenue received by Western Power for *excluded services* or in respect of services that are not provided by Western Power in accordance with this *Access Arrangement* must not be treated as actual regulated revenue for the purposes of this Transmission Network Revenue Cap.
- 5.34 The Transmission Network Revenue Cap commences on 1 July 2006, even if this *Access Arrangement* is approved after that date. This revenue cap applies annually on a financial year basis for the duration of this *Access Arrangement*.
- 5.35 For this *access arrangement period*, the maximum regulated transmission revenue  $MTR_t$  is determined as follows:

$$MTR_t = TR_t + TK_t$$

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<sup>1</sup> It is noted that if Western Power chooses to exclude a capital contribution from the determination of the *actual capital contributions received* by Western Power, the actual capital expenditure that will be applied in the *investment adjustment mechanism* will be correspondingly lower, and, other things being equal, will have the effect of reducing the target revenue in subsequent access arrangement periods so as to completely offset, in present value terms, the effect of the exclusion of that capital contribution from the determination of the *actual capital contributions received*. For a further explanation of this arrangement, please refer to Appendix 8 of this *Access Arrangement*.

<sup>2</sup> As such, this adjustment performs a similar function to the correction factor,  $TK_t$ , but this adjustment applies only to capital contributions and the adjustment itself is applied from the commencement of the next *access arrangement period*. For an explanation of the rationale for this approach, please refer to Appendix 8 of this *Access Arrangement*.

Where:

$TR_t$  is the dollar amount in money of the day terms (current prices) for the financial year  $t$  calculated from the dollar amounts (expressed in 30 June 2006 prices) set out in the table below.

**Transmission revenues to be used for calculating  $TR_t$   
(\$ million real as at 30 June 06)**

2006/07	2007/08	2008/09
211.8	230.5	224.1

$TK_t$  is the correction factor calculated in accordance with sections 5.36 and 5.37 of this *Access Arrangement*, which takes account of any difference between the maximum regulated transmission network revenue in financial year  $t-1$  and the actual regulated transmission network revenue in financial year  $t-1$ .

For the purpose of determining compliance with this revenue cap and calculating  $TR_t$ ,  $TK_t$  and therefore  $MTR_t$ , in each financial year CPI adjustments will be effected by using published CPI data relating to the relevant March quarters.

- 5.36 For financial years commencing on 1 July 2007 and 1 July 2008:

$$TK_t = (MTR_{t-1} - ATR_{t-1}) * (1 + WACC_{\text{pre-tax real}})$$

Where:

$MTR_{t-1}$  is the maximum regulated revenue for Western Power's transmission network in the previous financial year.

$ATR_{t-1}$  is the actual regulated transmission revenue in the previous financial year as defined in accordance with section 5.29 of this *Access Arrangement*.

$WACC_{\text{pre-tax real}}$  is 0.0676

For the financial year commencing on 1 July 2006,  $TK_t = 0$ .

For the avoidance of doubt, it should be noted that the annual tariff-setting process for financial year  $t$  typically takes place before the end of financial year  $t-1$ . Therefore,  $TK_t$  will need to be estimated in the first instance, and then recalculated in the subsequent financial year when  $ATR_{t-1}$  is known.

- 5.37 The correction factor,  $TK_t$ , will also apply in the first year of the next *access arrangement period* to adjust for any difference between maximum regulated transmission network revenue and actual transmission network revenue, in relation to the financial year commencing on 1 July 2008.

### **Distribution Network Revenue Cap**

- 5.38 The Distribution Network Revenue Cap determines the maximum regulated distribution revenue ( $MDR_t$ ) for Western Power's distribution network for each financial year  $t$ . Subject to the annual side constraints on reference tariff movements set out in section 3.11 of this *Access Arrangement*, Western Power will use its reasonable endeavours to

ensure that the actual distribution regulated revenue in financial year t does not exceed the maximum distribution regulated revenue in financial year t.

- 5.39 The operation of the correction factor,  $DK_t$ , as described in sections 5.47 and 5.48 of this *Access Arrangement* will ensure that the MDR in year t is adjusted for any shortfall or over-recovery of actual distribution regulated revenue compared to the MDR in preceding years.
- 5.40 For the purposes of this Distribution Network Revenue Cap, Western Power's actual regulated distribution revenue in financial year t comprises:
- (a) distribution revenue earned in relation to the provision of *reference* and *non-reference* services in financial year t, subject to section 5.44 of this *Access Arrangement*. Where a *reference* or *non-reference* service is provided jointly by Western Power's transmission and distribution network businesses, the revenue earned must be allocated between the businesses in a fair and reasonable manner; and
  - (b) "Deemed capital contributions" in financial year t in respect of the distribution network, as set out in the table below. The deemed capital contributions equals the forecast capital contributions in this *access arrangement period*, which have been used by Western Power in its calculation of *target revenue* for this *access arrangement period*.

**Deemed capital contributions in financial year t in respect of the distribution network (\$ million real as at 30 June 06)**

2006/07	2007/08	2008/09
91.6	106.8	122.3

- 5.41 For the purposes of determining actual capital contributions as applied in section 5.43 of this *Access Arrangement*, Western Power will exclude any capital contributions where the relevant works have been provided on a competitive basis or where the terms and conditions have been negotiated in accordance with section 2.5 of the Code. The purpose of this provision is to provide Western Power and prospective connecting parties with the option to negotiate connection contributions on a basis other than that contemplated by this *Access Arrangement*.<sup>3</sup>
- 5.42 No adjustments will be made to MDR in this *access arrangement period* to reflect any differences between the deemed capital contributions in respect of the distribution network and the actual capital contributions received during this *access arrangement period*.
- 5.43 An adjustment (positive or negative), termed the *Capital Contributions Adjustment Mechanism*, will be made to the *target revenue* for the next *access arrangement period* to reflect any difference between the deemed capital contributions in respect of the

<sup>3</sup> It is noted that if Western Power chooses to exclude a capital contribution from the determination of the *actual capital contributions received* by Western Power, the actual capital expenditure that will be applied in the *investment adjustment mechanism* will be correspondingly lower, and, other things being equal, will have the effect of reducing the target revenue in subsequent access arrangement periods so as to completely offset, in present value terms, the effect of the exclusion of that capital contribution from the determination of the *actual capital contributions received*. For a further explanation of this arrangement, please refer to Appendix 8 of this *Access Arrangement*.

distribution network and the actual capital contributions received during this *access arrangement period*. The purpose of this adjustment is to correct for any under- or over-recovery of actual capital contributions received compared to the forecast of capital contributions (the deemed capital contributions) in this *access arrangement period*<sup>4</sup>. To give effect to this purpose, the adjustment (positive or negative) to the *target revenue* for the next *access arrangement period* must leave Western Power economically neutral as a result of any difference between the deemed capital contributions in respect of the distribution network and the actual capital contributions received during this *access arrangement period* by taking account of:

- (a) The effects of inflation, both in this *access arrangement period* and the next *access arrangement period*;
- (b) The time value of money as reflected by the real pre-tax WACC as applied in this *access arrangement period* and the next *access arrangement period*; and
- (c) The difference in the timing of the deemed and *actual capital contributions received* in this *access arrangement period*, and the period over which any adjustment to *target revenue* is to be made.

5.44 For the avoidance of doubt, revenue received by Western Power for *excluded services* or in respect of services that are not provided by Western Power in accordance with this *Access Arrangement* must not to be treated as actual regulated revenue for the purposes of this Distribution Network Revenue Cap.

5.45 The Distribution Network Revenue Cap commences on 1 July 2006, even if this *Access Arrangement* is approved after that date. This revenue cap applies annually on a financial year basis for the duration of this *Access Arrangement*.

5.46 For this *access arrangement period*, the maximum regulated distribution revenue  $MDR_t$  is determined as follows:

$$MDR_t = DR_t + TEC_t + DK_t$$

Where:

$DR_t$  is the dollar amount in money of the day terms (current prices) for the financial year  $t$  calculated from the dollar amounts (expressed in 30 June 2006 prices) set out in the table below.

**Distribution revenues to be used for calculating  $DR_t$   
(\$ million real as at 30 June 06)**

2006/07	2007/08	2008/09
387.1	409.7	434.3

$TEC_t$  is the cost incurred by the distribution network for the financial year  $t$  as a result of the tariff equalisation contribution in accordance with section 6.37A of the Access Code.

<sup>4</sup> As such, this adjustment performs a similar function to the correction factor,  $TK_t$ , but this adjustment applies only to capital contributions and the adjustment itself is applied from the commencement of the next *access arrangement period*. For an explanation of the rationale for this approach, please refer to Appendix 8 of this *Access Arrangement*.

$DK_t$  is the correction factor calculated in accordance with sections 5.47 and 5.48 of this *Access Arrangement*, which takes account of any difference between the maximum regulated distribution network revenue in financial year  $t-1$  and the actual regulated distribution network revenue in financial year  $t-1$ .

For the purpose of determining compliance with this revenue cap and calculating  $DR_t$ ,  $DK_t$  and therefore  $MDR_t$ , in each financial year CPI adjustments will be effected by using published CPI data relating to the relevant March quarters.

- 5.47 For financial years commencing on 1 July 2007 and 1 July 2008:

$$DK_t = (MDR_{t-1} - ADR_{t-1}) * (1 + WACC_{\text{pre-tax real}})$$

Where:

$MDR_{t-1}$  is the maximum regulated revenue for Western Power's distribution network in the previous financial year.

$ADR_{t-1}$  is the actual regulated distribution revenue in the previous financial year as defined in accordance with section 5.40 of this *Access Arrangement*.

$WACC_{\text{pre-tax real}}$  is 0.0676

For the financial year commencing on 1 July 2006,  $DK_t = 0$ .

For the avoidance of doubt, it should be noted that the annual tariff-setting process for financial year  $t$  typically takes place before the end of financial year  $t-1$ . Therefore,  $DK_t$  will need to be estimated in the first instance, and then recalculated in the subsequent financial year when  $ADR_{t-1}$  is known.

- 5.48 The correction factor,  $DK_t$ , will also apply in the first year of the next *access arrangement period* to adjust for any difference between maximum regulated distribution network revenue and actual distribution network revenue, in relation to the financial year commencing on 1 July 2008.

### **Investment adjustment mechanism**

- 5.49 In the next *access arrangement period*, the Authority will make an allowance (positive or negative) in Western Power's *target revenue* in accordance with the *investment adjustment mechanism* set out below.
- 5.50 The *investment adjustment mechanism* will apply to both transmission and distribution capital expenditure. The purpose of the *investment adjustment mechanism* is to adjust Western Power's *target revenue* in the next *access arrangement period* in a manner that exactly corrects for the economic loss or gain to Western Power as a result of forecasting errors in relation to particular categories of capital expenditure (the *investment difference*) in this *access arrangement period*. In order to give effect to this purpose, the *investment adjustment mechanism* must take account of:
- (a) The effects of inflation, both in this *access arrangement period* and the next *access arrangement period*;
  - (b) The time value of money as reflected by the real pre-tax WACC as applied in this *access arrangement period* and the next *access arrangement period*; and

(c) The cost of depreciation and the value of capital additions to the *capital base* at the next *access arrangement period*.

5.51 Given the requirements of the *investment adjustment mechanism* as described in section 5.50 above, Western Power's preferred approach is to:

(a) use the Authority's revenue model (as adopted in this *access arrangement period*) to calculate the difference in present value terms between:

i. The *target revenue* that would have been calculated for this *access arrangement period* if the *investment difference* had been zero (i.e. there was no forecasting error in relation to the capital expenditure categories that are subject to the *investment adjustment mechanism*); and

ii. The *target revenue* that actually applied in this *access arrangement period*.

The adjustment to *target revenue* in the next *access arrangement period* should be such that its present value is equal to the present value of the difference described in (a) above.

5.52 For the avoidance of doubt, the *target revenue* that actually applied in this *access arrangement period* includes the deemed capital contributions as set out in sections 5.29 and 5.40 of this *Access Arrangement*, and not the actual capital contributions received. In assessing the *target revenue* for the purposes of 5.51(a)(i), Western Power may elect to exclude a particular capital contribution or contributions in accordance with sections 5.30 and 5.41 of this *Access Arrangement*, in order to give effect to section 2.5 of the Code. For an explanation of the rationale for this approach, please refer to Appendix 8 of this *Access Arrangement*.

5.53 For the purposes of calculating the *investment adjustment mechanism*, the categories of capital expenditure that are used in calculating the *investment difference* are:

(a) Capital expenditure arising from the connection of new generation capacity to the transmission or distribution network from 1 July 2006;

(b) Capital expenditure arising from the connection of new load to the transmission or distribution network from 1 July 2006; and

(c) Capital expenditure in relation to the augmentation of the capacity of the transmission or distribution networks for the provision of *covered services* from 1 July 2006.

## 6 Capital base value and depreciation

### Capital base value

6.1 The table below shows the derivation of the capital base value as at 30 June 2006.

**Derivation of Transmission Initial Capital Base (net)**  
(\$ million real as at 30 June 2006)

Financial year ending:	30 June 2004	30 June 2005	30 June 2006
Opening capital base value		1,193.4	1,261.5
less Depreciation		42.9	45.2
plus Capital Expenditure (net)		111.0	180.3
less Redundant Assets		0.0	0.0
plus Corporate Assets allocated to Western Power		0.0	8.0
<b>Closing capital base value</b>	<b>1,193.4</b>	<b>1,261.5</b>	<b>1,404.5</b>

**Derivation of Distribution Initial Capital Base (net)**  
(\$ million real as at 30 June 2006)

Financial year ending:	30 June 2004	30 June 2005	30 June 2006
Opening capital base value		1,387.0	1,452.9
less Depreciation		85.6	89.9
plus Capital Expenditure (net)		156.6	160.5
less Redundant Assets		5.1	2.9
plus Corporate Assets allocated to Western Power		0.0	8.0
<b>Closing capital base value</b>	<b>1,387.0</b>	<b>1,452.9</b>	<b>1,528.6</b>

6.2 The capital base value as at 30 June 2006 reflects a forecast of capital expenditure for the year ending 30 June 2006 ("2005/06"). To ensure that Western Power is remunerated only for actual capital investment that is undertaken in the year ending 30 June 2006:

- (a) the *capital base* value at the commencement of the next *access arrangement period* will be adjusted (in real terms) for any difference between the actual capital expenditure and the forecast of capital expenditure for the 2005/06 year that was used to establish the opening capital base value at 30 June 2006 (the "2005/06 capital expenditure forecast error"); and
- (b) an adjustment to the *target revenue* in the next *access arrangement period* will be made to compensate Western Power (or *users*) for the return-on-assets revenue foregone (or additional return-on-assets revenue recovered) by

Western Power over the *first access arrangement period* in respect of the *2005/06 capital expenditure forecast error*.

6.3 For the avoidance of doubt:

- (a) under the arrangements set out in section 6.2 of this *Access Arrangement* the *target revenue* for the *first access arrangement period* will not be adjusted for any *2005/06 capital expenditure forecast errors*;
- (b) the intended effect of the arrangements set out in section 6.2 of this *Access Arrangement* is to hold Western Power and *users* economically neutral in the event that there are any *2005/06 capital expenditure forecast errors*; and
- (c) adjustments made at the next *access arrangement* review pursuant to section 6.2 of this *Access Arrangement* will have the effect of ensuring that the total revenue recovered by Western Power over the *first access arrangement period* and subsequent *access arrangement* periods will be equivalent in present value terms to the amount that would be recovered if there were no *2005/06 capital expenditure forecast errors*.

## **Depreciation**

6.4 Pursuant to section 6.70 of the Code, the *price control* set out in this *Access Arrangement* provides for the depreciation of the *network assets* that comprise the *capital base*. References to depreciation in this *Access Arrangement* relate solely to regulatory depreciation for the purposes of calculating the *target revenue*, and do not relate to the calculation of depreciation for accounting or taxation purposes. For the avoidance of doubt, the annual depreciation provision contained in the *target revenue* represents a return of the *capital base* value to the providers of capital.

6.5 The annual depreciation provision contained in the *target revenue* for each year of the *first access arrangement period* is calculated using:

- (a) the straight line depreciation method; and
- (b) weighted average lives for each of the transmission and distribution networks based on the asset lives for each group of *network assets* as set out in the following tables:



### Transmission asset groupings and economic lives for depreciation purposes

Asset group	Economic Life (years) for depreciation purposes
Transmission transformers	50 years
Transmission reactors	50 years
Transmission capacitors	40 years
Transmission circuit breakers	50 years
Transmission lines - steel towers	60 years
Transmission lines - wood poles	45 years
Transmission cables	55 years
Transmission metering	40 years
Transmission SCADA and Communications	34.15 years
Transmission IT&T	16.85 years
Transmission Other, non-network assets	16.85 years

### Distribution asset groupings and economic lives for depreciation purposes

Asset group	Economic Life (years) for depreciation purposes
Distribution lines - wood poles	41 years
Distribution lines - steel poles	50 years
Distribution underground cables	60 years
Distribution transformers	35 years
Distribution switchgear	35 years
Street lighting	20 years
Distribution meters and services	25 years
Distribution IT&T	10.16 years
Distribution SCADA & communications	10.16 years
Distribution Other, non-network	10.16 years

- 6.6 For the avoidance of doubt, Western Power confirms that it is adopting a straight-line approach to depreciation and is not proposing any accelerated depreciation in the *first*

*access arrangement period* in relation to transmission assets. In respect of distribution assets, Western Power will apply accelerated depreciation in respect of those distribution assets that will be decommissioned as a result of the retrospective undergrounding project undertaken by Western Power on behalf of the Western Australian government.

**Distribution redundant capital by asset class (\$ million real as at 30 June 2006)**

Financial year ending:	30 June 2007	30 June 2008	30 June 2009
Distribution lines - wood poles	2.9	2.8	2.7
Distribution lines - steel poles	0.0	0.0	0.0
Distribution underground cables	0.0	0.0	0.0
Distribution transformers	0.8	0.7	0.7
Distribution switchgear	0.2	0.2	0.2
Street lighting	0.0	0.0	0.0
Distribution meters and services	0.0	0.0	0.0
Distribution IT&T	0.0	0.0	0.0
Distribution SCADA & communications	0.0	0.0	0.0
Distribution Other, non-network	0.0	0.0	0.0
Distribution Land & Easements	0.0	0.0	0.0
<b>TOTAL</b>	<b>3.8</b>	<b>3.7</b>	<b>3.6</b>

## 7 Weighted Average Cost of Capital

- 7.1 Pursuant to section 6.64 of the Code the *weighted average cost of capital* for Western Power's *covered network* is 6.76% real pre-tax.

## 8 Trigger events

- 8.1 Pursuant to section 4.37 of the Code the following event is a *trigger event*:
- (a) Any significant unforeseen development which has a materially adverse impact on the *service provider* and which is:
    - (i) outside the control of the *service provider*, and
    - (ii) not something that the *service provider*, acting in accordance with *good electricity industry practice*, should have been able to prevent or overcome; and
    - (iii) an event the impact of which is so substantial that the *Authority* considers that the advantages of making the variation before the end of the *access arrangement period* outweigh the disadvantages, having regard to the impact of the variation on regulatory certainty.

## 9 Pricing method

### Purpose

- 9.1 Pursuant to section 5.1(e) of the Code and Chapter 7 of the Code, this section describes the *pricing method* applied by Western Power.

### Network pricing objectives

- 9.2 Western Power's *pricing method* is designed to achieve the objectives set out in sections 7.3 and 7.4 of the Code.
- 9.3 Without compromising the objectives set out in sections 7.3 and 7.4 of the Code, Western Power's *pricing method* seeks to recover the costs of providing *reference services* from *users* in a manner that is simple, practical and equitable.

### Overview of Pricing Method

- 9.4 *Reference tariffs* are derived from an analysis of the cost of service provision which entails:
- (a) identifying the costs of providing *reference services*;
  - (b) allocating the costs of providing *reference services* to particular customer groups;
  - (c) translating the costs of serving particular customer groups to the costs of providing *reference tariffs*; and
  - (d) determining a structure of *reference tariffs* in a manner that reflects the underlying cost structure, in accordance with section 7.6 of the Code.
- 9.5 The transmission costs relating to *reference services* A1 to A10 and B1 are expressed so that these costs can be incorporated in the relevant *reference tariff* in a cost reflective manner.
- 9.6 *Reference tariffs* for reference services A11 and B2 are location-specific and are published for each electrical node.

### Pricing method – compliance with Code requirements

- 9.7 This section of the *Access Arrangement* explains how the *pricing method* complies with the Code requirements.

#### Recovery of forward-looking efficient costs of providing reference services

- 9.8 In accordance with section 7.3(a) of the Code, reference tariffs are designed to recover forward-looking costs of providing reference services. It is recognised that the total forward-looking costs for the provision of network services relate to the provision of reference and non-reference services. .
- 9.9 Non-reference service revenue is recovered on a fee-for-service basis and reflects that component of the forecast costs related to the provision of non-reference services.
- 9.10 Reference tariffs are designed to recover the forward-looking costs for the provision of reference services. Capital contributions are charged in accordance with Western Power's capital contributions policy. In general terms, capital contributions seek to

recover in net present value terms any shortfall between the expected revenue from reference tariffs and the costs of connection.

*Reference tariffs should be between the incremental and the stand-alone cost of service provision.*

- 9.11 In accordance with section 7.3(b)(i) and (ii) of the Code, reference tariffs are set to at least recover the incremental cost, but to be less than the stand-alone cost of service provision.
- 9.12 The incremental and stand-alone cost of service for each of the reference services A5, A6, A7, A8, and B1 are determined by calculation at a customer level. The following table gives the sum of the incremental costs, the sum of the stand-alone costs, and the sum of the forecast revenue recovered from the customers for each of these reference tariffs.

Reference Service	Reference Tariff	Incremental Cost Of Service (\$000 per annum)	Stand-Alone Cost of Service Provision (\$000 per annum)	Forecast Revenue Recovered from Reference Tariff (\$000 per annum)
A5	RT5	4,846	55,691	5,682
A6	RT6	17,495	70,877	21,177
A7	RT7	35,339	52,274	44,929
A8	RT8	5,583	10,169	8,734
B1	RT11	555	52,274	555

- 9.13 The incremental cost of service for reference services A1, A2, A3, A4, A9, and A10 are determined by allocation of incremental costs for the network to each tariff. The following table gives the sum of the incremental costs, the sum of the stand-alone costs, and the sum of the forecast revenue recovered from the customers for each of these reference tariffs.

Reference Service	Reference Tariff	Incremental Cost Of Service (\$000 per annum)	Stand-Alone Cost of Service Provision (\$000 per annum)	Forecast Revenue Recovered from Reference Tariff (\$000 per annum)
A1	RT1	204,897	264,392	247,929
A2	RT2	81,208	135,024	89,645
A3	RT3	6,329	59,525	7,198
A4	RT4	67,687	121,028	68,639
A9	RT9	12,300	64,475	12,911
A10	RT10	563	53,640	1,062

- 9.14 For the transmission reference tariffs TRT1 and TRT2 (refer to Appendix 7 of this *Access Arrangement* for more detail), location specific nodal prices are derived using the T-Price computer model. T-Price is a transmission network pricing software package provided by Rolib Pty Ltd and is used by all Australian utilities and the National Electricity Market Management Company (NEMMCO). This model establishes a price reflecting average costs at each network node. On the basis that T-price is used to derive prices and is the industry standard, it is considered that the

prices are efficient and consistent with the objectives of the Code and in particular the objectives of chapter 7 of the Code.

#### Charges paid by different users of a reference service

- 9.15 In accordance with section 7.4(a) of the Code, the charges paid by different users of a reference service differ only to the extent necessary to reflect differences in the average cost of service provision to the users.
- 9.16 Each of the reference tariffs takes into account the metering information available for each reference service, and therefore contains components that vary with usage or demand. In addition reference tariffs RT5, RT6, RT7, RT8, RT11, TRT1 and TRT2 vary with location. Within the requirements of clause 7.7 of the Code, these components reflect the differences in average cost of different users of the same reference service.

#### Reasonable requirements of users

- 9.17 In accordance with section 7.4(b) of the Code, the structure of reference tariffs has been set to reasonably accommodate the requirements of users collectively. This has been achieved by developing the tariff structure through a consultative process that involved Government and industry stakeholders. Most tariffs have been in place since 2001 and are accepted as being appropriate for the provision of reference services.

#### Structure of tariffs should enable a user to predict the likely annual changes.

- 9.18 In accordance with section 7.4(c) of the Code, users can predict the likely annual changes in reference tariffs. All reference tariffs are defined for the first year of the *Access Arrangement*. For the remainder of the *access arrangement* period side constraints limit the variation of any tariff component. In addition the forecast tariff revenue has been smoothed across the *access arrangement* period to facilitate smooth price movements.

#### Avoidance of price shock

- 9.19 In accordance with section 7.4(d) of the Code, the structure of reference tariffs is designed to avoid price shock, principally by the imposition of side constraints on annual price movements. In addition the forecast tariff revenue has been smoothed across the *access arrangement* period so that price movements will be smoothed across each year.

#### Tariff components

- 9.20 In accordance with section 7.6 of the Code, reference tariffs have been designed to recover the cost of service provision in a cost reflective manner. The Code requires the incremental cost of service provision to be recovered by tariff components that vary with usage, and the costs in excess of the incremental costs to be recovered through tariff components that do not vary with usage.
- 9.21 This requirement has been achieved through the method described in the "Price List Information" document, in which, subject to section 7.7 of the Code, price components have been derived to recover the cost of service provision in accordance with the objectives set out in sections 7.3 and 7.4 of the Code.

- 9.22 *Reference tariffs* are structured so that usage-related charges properly reflect the incremental costs to Western Power of providing *reference services*, in accordance with section 7.6 of the Code.

### **Policy on prudent discounting**

- 9.23 Western Power may discriminate between *users* in its pricing of *services* to the extent that it is necessary to do so to aid economic efficiency, by:
- (a) entering into an agreement with a *user* to apply a *discount* to the *equivalent tariff* to be paid by the *user* for a *covered service*; and
  - (b) then, recovering the amount of the *discount* from other *users* of *reference services* through *reference tariffs*.
- 9.24 In exercising its discretion with regard to prudent discounting, Western Power will have regard to the pricing objectives in sections 7.3 and 7.4 of the Code.
- 9.25 Western Power may offer a prudent discount if the existing *user* or *applicant* seeking access to the *SWIN* is able to demonstrate that another supply option will provide a comparable service at a lower price than that offered by Western Power's *reference services* and *reference tariffs*.
- 9.26 The existing *user* or *applicant* must provide Western Power with sufficient details of the cost of the other option to enable Western Power to calculate the annualised cost of the other option.
- 9.27 Western Power's discounted price offer will be set to reflect the higher of:
- (a) the cost of the other option, or
  - (b) the *incremental cost of service provision*.

### **Policy on discounts for distributed generation**

- 9.28 In accordance with section 7.11 of the Code, Western Power will offer to a *user* who connects *distributed generating plant* to the *SWIS*, a share of any reductions in either or both of Western Power's *capital-related costs* or *non-capital costs* which arise as a result of the *entry point* for *distributed generating plant* being located in a particular part of the *SWIN* by:
- (a) entering into an agreement with a *user* to apply a discount to the *equivalent tariff* to be paid by the *user* for a *covered service*; and
  - (b) then, recovering the amount of the discount from other *users* of *reference services* through *reference tariffs*.
- 9.29 The amount of the total discount available under section 9.28 will be determined by Western Power as the forecast *capital-related costs* and *non-capital costs* that would be incurred if the *distributed generating plant* were not to connect minus the forecast *capital-related costs* and *non-capital costs* that would be incurred if the *distributed generating plant* were to connect. The cost analysis will be conducted over a period of at least 10 years, depending on the availability and accuracy of data. A discount will only be payable if the amount calculated in accordance with this section 9.29 is greater than zero.

- 9.30 The discount calculated in accordance with section 9.29 will be calculated in present value terms and, using the real pre-tax *WACC*, converted to an equivalent annualised discount for a defined period of time, as agreed by the parties. Nothing in this calculation prevents the discount exceeding 100% of the *equivalent tariff*.

## **10 Supplementary matters**

### **Balancing**

- 10.1 Balancing requirements under the *Access Arrangement* shall be in accordance with the Wholesale Electricity Market Rules, subject to section 10.8 of this *Access Arrangement*.

### **Line Losses**

- 10.2 Requirements for the treatment of line losses under the *Access Arrangement* shall be in accordance with the Wholesale Electricity Market Rules, subject to section 10.8 of this *Access Arrangement*.

### **Metering**

- 10.3 Metering requirements under the *Access Arrangement* shall be in accordance with the Electricity Industry Metering Code 2005, subject to section 10.8 of this *Access Arrangement*. In relation meter upgrades, Schedule 3 of the Metering Code Model Service Level Agreement provides for no additional charge to be levied.

### **Ancillary Services**

- 10.4 Requirements for the treatment of ancillary services under the *Access Arrangement* shall be in accordance with the Wholesale Electricity Market Rules, subject to section 10.8 of this *Access Arrangement*.

### **Stand-by**

- 10.5 Under the Wholesale Electricity Market Rules there is no requirement for stand-by generation.

### **Trading**

- 10.6 Trading requirements under the *Access Arrangement* shall be in accordance with the Wholesale Electricity Market Rules, subject to section 10.8 of this *Access Arrangement*.

### **Settlement**

- 10.7 Settlement requirements under the *Access Arrangement* shall be in accordance with the Wholesale Electricity Market Rules, subject to section 10.8 of this *Access Arrangement*.

### **Possible Interim Arrangements**

- 10.8 Interim arrangements may be required in the event that the Wholesale Electricity Market Rules or the Electricity Industry Metering Code 2005 is not operational at the commencement of this *Access Arrangement*.

- 10.9 The interim arrangements referred to in section 10.8 of this *Access Arrangement* will reflect working practices immediately prior to the commencement of this *Access Arrangement* or as otherwise reasonably directed by the *Authority*.



## **Appendix 1: Applications and Queuing Policy**

## **Appendix 2: Transfer and Relocation Policy**

## **Appendix 3: Capital Contributions Policy**

## **Appendix 4: Standard Access Contract: Electricity Transfer Access Contract**

## **Appendix 5: Price list**

## **Appendix 6: Price list Information**

## **Appendix 7: Western Power's Reference Services**

## **Appendix 8: Explanatory notes regarding the price control arrangements**