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Western Power

16 November 2005

Mr Alistair Butcher
Economic Regulation Authority
6th Floor Governor Stirling Tower
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Perth WA 6000

Dear Alistair

PROVISION OF INFORMATION

The following information is provided by Western Power in response to the Authority's "Notice to give information or documents" issued under Section 51 of the Economic Regulation Authority Act 2003 (WA) by Lyndon Rowe on 9 November 2005:

- Attachment A;
- Attachment B;
- A separate detailed listing of Distribution Capacity Driven High Voltage projects; and
- A separate worksheet defining System Management costs.

as per the attached paper copy and electronic form on CD.

The information provided requires some explanation and/or clarification. In particular:

- (a) As explained in a number of previous communications, information about assets, capital expenditures and capital contributions is not recorded by asset groups in Western Power's information systems. The asset group breakdowns provided are therefore our best **estimate** only.
- (b) It was considered necessary to modify the project worksheets in Attachment A by replacing the single "asset group" column with multiple columns.
- (c) The asset groups identified in Attachment A do not match those in Attachment B. We have provided the requested information for the network asset groups listed in the Attachment A "Asset Group" worksheet.
- (d) To avoid any possible ambiguity, I confirm the ODV and Capex figures in Attachment B reflect the full cost of assets i.e. the value of capital contributions has not been subtracted.
- (e) In Attachment B, the "Estimated Remaining Useful Life" figures for Opening Asset Base and Accumulated Capital contributions have been calculated by dividing the "Opening Value (\$)" by the depreciation.
- (f) It must be recognized at the outset that the use of estimated numbers in your modelling will undoubtedly produce outcomes which do not reconcile with Western Power's revenue model.

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Western Power's response to your specific requests follow:

1. "All forecast capital costs ... to be represented by asset group ..."

The information provided is our best estimate, based on an assessment of specific and generic projects.

2. "A description outlining the purpose of each proposed capital project ..."

Clarification of this request was sought on 14 November and you confirmed that clarity of the project description was the information required e.g. replacing acronyms with full titles, etc., rather than a description of the project "purpose" which is essentially explained by the work driver and related supporting information in Appendix 7 of the AAI.

Accordingly, an enhanced project description has been provided where appropriate in the Attachment A worksheets titled "Transmission Capex – by project" and "Distribution Capex – by project".

3. "Capital contributions forecast to be ... separated into asset groups ..."

The information provided is our best estimate, based on an assessment of specific and generic projects.

4. "... the capital costs associated with the Rural Power Improvement Project shown by asset group ..."

The information provided is our best estimate, based on an assessment of specific and generic projects.

The RPIP project is fully funded by Western Power, with an effective State Government equity interest of 50% via an agreed reduction in dividend in the relevant financial years. Therefore, there is no equivalent capital contribution included in the revenue formulation.

5. "... the capital costs associated with the State Undergrounding Power Program shown by asset group ..."

The information provided is our best estimate, based on an assessment of specific and generic projects.

The SUPP project capital expenditure is jointly funded by Western Power, the State Government and Local Government Authorities on a 25%/25%/50% basis respectively. While the full cost is included in the capital expenditure forecasts, Western Power receives separate cash payments from both the State Government and Local Government Authorities which are recognized as revenue (for accounting purposes), and equivalent offsetting capital contributions are included in the revenue formulation.

6. "... forecast operating and capital budgets ... to be recovered separately by "Systems management", as defined in the *Wholesale Market Rules*. Confirm, for both transmission and distribution networks, that the forecast costs do not include systems management functions or costs."

Capex

As presented in the AAI, there is no specific Capex provision for Network Operations. However, you will observe in the project listings in Attachment A that there are some related small projects in the "IT" and "Support" expenditure categories. It is appropriate that all of these costs remain with the Network business.

Opex

The proposed AA currently includes 100% of the forecast operating expenditure for the East Perth Control Centre and all its present functions, as referenced in Figures 10 and 17 of the AAI for "Network Operations", and detailed as follows:

\$M	2006/07	2007/08	2008/09
Transmission	12.1	13.3	13.2
Distribution	8.5	8.8	9.2

The present transmission functions are an integrated combination of "network management" and "system management" activities, the latter typically comprising generation despatch and coordination of major transmission circuit outages for maintenance. Western Power has reviewed these forecasts in detail to separately identify the specific costs associated with the system management function, as shown below:


\$M		2006/07	2007/08	2008/09
Transmission	Network Management	10.0	11.0	10.9
	System Management	2.1	2.3	2.3
	Total	12.1	13.3	13.2
Distribution		8.5	8.8	9.2

Further details of the make-up of these costs are attached in a separate file in the attached CD.

It is now proposed that the identified System Management operating costs are, subject to the acceptance of the Independent Market Operator, to be removed from the AA forecast expenditures and recovered from market participants via a separate mechanism provided by the Wholesale Electricity Market Rules.

I trust this additional information is satisfactory and will assist the Authority in its timely assessment of Western Power's proposed Access Arrangement.

Yours sincerely



Phil Southwell
Manager Networks Strategy & Regulation

Asset group	Asset life for depreciation purposes
Distribution wood pole lines (Weighted Average)	41 years
Distribution steel pole lines	50 years
Distribution underground cables	60 years
Distribution transformers	35 years
Distribution switchgear	35 years
Public lighting	20 years
Distribution meters and services	25 years
Transmission transformers	50 years
Transmission reactors	50 years
Transmission capacitors	40 years
Transmission circuit breakers	50 years
Transmission lines – steel tower	60 years
Transmission lines – wood pole	45 years
Transmission cables	55 years
Transmission Non-Network Assets (Weighted Average)	16.8 years
Transmission land and easements	
SCADA and Communications (Weighted Average)	34.1 years

<i>Taken from Table 6 of AAI</i>	<i>Actual</i>	<i>Actual</i>	<i>Actual</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
(\$m)	Historical			Interim	First access arrangement Period		
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
System Capacity	\$ 83.0	\$ 78.0	\$ 66.2	\$ 81.2	\$ 81.2	\$ 107.5	\$ 107.0
Customer Driven - Bulk Loads	\$ 0.3	\$ 2.1	\$ 2.2	\$ 12.7	\$ 17.4	\$ 2.7	\$ -
Customer Driven - Generation	\$ 0.3	\$ 2.9	\$ 42.9	\$ 71.6	\$ 47.9	\$ 25.7	\$ 20.1
Asset Replacement	\$ 3.3	\$ 5.2	\$ 5.5	\$ 9.1	\$ 9.9	\$ 13.5	\$ 18.0
Safety, Environmental & Statutory	\$ 0.1	\$ 0.2	\$ 1.5	\$ 5.1	\$ 5.4	\$ 8.1	\$ 8.1
Reliability Driven	\$ 0.9	\$ 1.3	\$ 0.7	\$ 1.2	\$ 1.8	\$ 1.8	\$ 1.8
SCADA & Communications	\$ 4.5	\$ 3.8	\$ 2.0	\$ 3.4	\$ 3.2	\$ 1.5	\$ 3.4
IT (inc Market Reform)	\$ 0.5	\$ 0.4	\$ 1.1	\$ 2.6	\$ 5.9	\$ 4.2	\$ 4.8
Support	\$ 1.6	\$ 1.3	\$ 4.9	\$ 4.2	\$ 4.5	\$ 4.1	\$ 4.1
TRANSMISSION TOTAL	\$ 94.5	\$ 95.2	\$ 126.9	\$ 191.0	\$ 177.1	\$ 169.1	\$ 167.3
Vested Assets							
TRANSMISSION GRAND TOTAL	\$ 94.5	\$ 95.2	\$ 126.9	\$ 191.0	\$ 177.1	\$ 169.1	\$ 167.3

<i>Taken from Figure 10 AAI</i>	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
IT&T	\$ 4.62	\$ 6.24	\$ 6.57	\$ 7.28	\$ 7.82
Network Operations	\$ 8.16	\$ 9.48	\$ 12.14	\$ 13.26	\$ 13.20
SCADA & Communications	\$ 2.40	\$ 5.31	\$ 5.41	\$ 5.57	\$ 5.72
Maintenance & Strategy	\$ 23.52	\$ 21.90	\$ 21.21	\$ 21.29	\$ 21.70
Network Support	\$ 21.30	\$ 28.26	\$ 31.58	\$ 35.51	\$ 40.56
Transmission Total	\$ 60.00	\$ 71.20	\$ 76.90	\$ 82.90	\$ 89.00

<i>Taken from Table 17 of AAI</i>	<i>Actual</i>	<i>Actual</i>	<i>Actual</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
(\$m)	Historical			Interim	First access arrangement Period		
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Distribution Capacity	\$ 17.3	\$ 18.1	\$ 22.5	\$ 33.3	\$ 30.2	\$ 34.0	\$ 40.3
Customer Driven	\$ 67.8	\$ 84.6	\$ 103.7	\$ 84.5	\$ 84.5	\$ 84.5	\$ 84.5
Asset Replacement	\$ 8.2	\$ 4.0	\$ 11.0	\$ 10.3	\$ 10.3	\$ 10.0	\$ 19.0
Reliability Driven	\$ 0.0	\$ 0.3	\$ 0.1	\$ 7.7	\$ 7.7	\$ 12.0	\$ 21.9
Safety, Environmental & Statutory	\$ 0.0	\$ 4.3	\$ 25.1	\$ 23.9	\$ 28.2	\$ 40.0	\$ 44.7
SCADA & Communications	\$ 4.5	\$ 2.5	\$ 2.2	\$ 2.1	\$ 2.1	\$ 1.8	\$ 1.9
IT (inc Market Reform)	\$ 0.7	\$ 1.1	\$ 5.2	\$ 15.2	\$ 15.2	\$ 11.4	\$ 13.0
Metering	\$ 4.5	\$ 4.5	\$ 13.6	\$ 4.4	\$ 4.4	\$ 8.1	\$ 10.0
SUPP	\$ 16.0	\$ 8.2	\$ 19.3	\$ 17.1	\$ 17.1	\$ 16.3	\$ 17.1
RPIP	\$ -	\$ 0.0	\$ 10.4	\$ 10.3	\$ 10.3	\$ 10.6	\$ -
Support	\$ 1.2	\$ 1.3	\$ 5.4	\$ 3.2	\$ 3.2	\$ 3.5	\$ 3.8
DISTRIBUTION TOTAL	\$ 120.2	\$ 128.8	\$ 218.4	\$ 212.0	\$ 213.1	\$ 232.1	\$ 256.2
Vested Assets	\$ 9.0	\$ 13.8	\$ 16.2	\$ 17.2	\$ 19.6	\$ 21.9	\$ 24.3
DISTRIBUTION GRAND TOTAL	\$ 129.1	\$ 142.6	\$ 234.5	\$ 229.2	\$ 232.7	\$ 254.1	\$ 280.5

<i>Taken from Figure 17 AAI</i>	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
Call Centre	\$ 4.96	\$ 5.71	\$ 6.56	\$ 6.86	\$ 7.20
Metering	\$ 9.32	\$ 11.69	\$ 14.35	\$ 14.35	\$ 15.89
IT&T	\$ 8.23	\$ 10.52	\$ 11.19	\$ 12.78	\$ 15.11
Network Operations	\$ 7.44	\$ 7.15	\$ 8.49	\$ 8.83	\$ 9.19
SCADA & Communications	\$ 0.48	\$ 0.82	\$ 0.87	\$ 0.90	\$ 0.94
Reliability	\$ -	\$ 3.69	\$ 4.47	\$ 4.50	\$ 4.52
Network Support	\$ 26.55	\$ 25.11	\$ 33.01	\$ 37.36	\$ 37.25
Maintenance & Strategy	\$ 92.48	\$ 90.50	\$ 77.31	\$ 76.05	\$ 76.80
Distribution Total	\$ 149.46	\$ 155.20	\$ 156.25	\$ 161.63	\$ 166.91

Distribution Inputs (all numbers in \$ nominal)

Opening Asset Base (including capital contributions) (\$M)		
Asset Class	Opening Value 1 July 2006	Estimated Remaining Useful Life
NETWORK RELATED		
Wooden Pole Lines	718.7	18.2
Underground Cables	791.3	44.7
Transformers	307.4	21.0
Switchgear	161.2	16.5
Total Network	1,978.6	
Streetlighting	80.8	9.6
METERING RELATED		
Meters and Services	160.3	9.0
NON-NETWORK RELATED		25.15
IT&T	20.1	
SCADA & Communications	12.4	
Other Distribution Non-Network	43.5	
Distribution Land & Easements	16.9	N/A
Total Assets (including Capital Contributions)	2,312.6	

Accumulated Capital Contributions (\$M)		
Asset Class	Opening Value 1 July 2006	Estimated Remaining Useful Life (yrs)
	831.9	39.0

Notes

Estimated Remaining Useful Life has been calculated with the following formula: ODV/Depreciation

Capital Expenditure (\$M)				
	Economic Life	2006/07	2007/08	2008/09
NETWORK RELATED				
Wooden Pole Lines	41	51.0	65.6	75.1
Underground Cables	60	94.9	99.4	108.6
Transformers	35	28.2	27.2	27.7
Switchgear	35	21.9	25.2	27.2
Total Network		196.0	217.4	238.5
Streetlighting	20	11.6	11.8	13.2
METERING RELATED				
Meters and Services	25	4.4	8.1	10.0
NON-NETWORK RELATED				
IT&T	10.16	15.2	11.4	13.0
SCADA & Communications	10.16	2.1	1.8	1.9
Other Distribution Non-Network	10.16	3.2	3.5	3.8
Distribution Land & Easements		0.0	0.0	0.0
Total Capital Expenditure (including capital contributions)		232.6	254.0	280.4

Capital Contributions commencing 1 July 2006 (\$M)		Economic Life	2006/07	2007/08	2008/09	
NETWORK RELATED						
Wooden Pole Lines		41	2.3	2.3	2.3	
Underground Cables		60	63.5	64.8	67.0	
Transformers		35	10.3	10.5	10.8	
Switchgear		35	6.6	6.7	6.9	
Total Network			82.7	84.3	87.0	
Streetlighting			20	7.9	8.1	8.4
METERING RELATED						
Meters and Services		25	0.0	0.0	0.0	
NON-NETWORK RELATED						
Non Network		10.16	0.0	0.0	0.0	
Total capital contributions			90.7	92.4	95.4	

Operations and Maintenance Expenditure (\$M)			
	2006/07	2007/08	2008/09
Maintenance Strategy	6.3	6.3	6.4
Preventative Condition	13.5	13.8	14.3
Preventative Routine	23.3	23.9	24.8
Corrective Deferred	11.9	11.1	10.9
Corrective Emergency	22.4	21.0	20.5
Maintenance (Total)	77.3	76.0	76.8
Reliability	4.5	4.5	4.5
SCADA & Communications	0.9	0.9	0.9
Network Operations	8.5	8.8	9.2
IT&T	11.2	12.8	15.1
Metering	14.4	14.4	15.9
Call Centre	6.6	6.9	7.2
Network Support	33.0	37.4	37.3
Total Opex Expenditure	156.2	161.6	166.9

Transmission Inputs (all numbers in \$ nominal)

Opening Asset Base (including capital contributions)		
Asset Class	Opening Value 1 July 2006	Estimated Remaining Useful Life
Transmission cables	13.1	38.7
Transmission steel towers	383.0	41.4
Transmission wood poles	194.4	22.3
Transmission Metering	2.3	26.8
Transmission transformers	171.0	26.7
Transmission reactors	4.3	28.0
Transmission capacitors	82.5	24.0
Transmission circuit breakers (and Site)	497.4	30.0
SCADA and Communications	32.7	11.2
IT&T	4.2	3.4
Land & Easements	90.6	N/A
Other Non-Network Assets	19.9	9.8
Total Assets (including Capital Contributions)	1,496	

Accumulated Capital Contributions as at 1 July 06		
Asset Class	Opening Value 1 July 2006	Estimated Remaining Useful Life
	124.1	47.1

Notes

Estimated Remaining Useful Life has been calculated with the following formula: ODV/Depreciation

Capital Expenditure				
	Economic Life	2006/07	2007/08	2008/09
Transmission cables	55	6.6	9.0	0.5
Transmission steel towers	60	53.6	35.3	47.1
Transmission wood poles	45	3.7	8.3	26.0
Transmission Metering	40	-	-	-
Transmission transformers	50	26.3	23.0	27.0
Transmission reactors	50	0.3	-	-
Transmission capacitors	40	4.9	3.3	3.1
Transmission circuit breakers	50	48.4	42.8	44.4
SCADA and Communications	34.15	4.1	2.2	4.3
IT&T	16.85	5.8	4.2	4.8
Land & Easements	na	20.7	32.6	9.5
Other Non-Network Assets	16.85	4.6	4.2	4.1
Total Capital Expenditure (including capital contributions)		178.975889	165.070098	170.790962

Capital Contributions (\$M)	Economic Life	2006/07	2007/08	2008/09
Transmission cables	55	1.80		0.20
Transmission steel towers	60	2.13		0.05
Transmission wood poles	45			
Transmission Metering	40			
Transmission transformers	50	0.21		0.00
Transmission reactors	50			
Transmission capacitors	40			
Transmission circuit breakers	50	9.74		2.44
SCADA and Communications	34.15			
IT&T	16.85			
Land & Easements	na		0.13	0.02
Other Non-Network Assets	16.85			
Cash Contributions	N/A			
Total Capital Contributions		14	2.7	0

Operations and Maintenance Expenditure (\$M)			
	2006/07	2007/08	2008/09
Maintenance Strategy	4.0	4.1	4.2
Preventative Condition	6.0	6.1	6.2
Preventative Routine	8.1	8.3	8.5
Corrective Deferred	2.1	1.9	1.9
Corrective Emergency	1.0	0.9	0.9
Maintenance (Total)	21.2	21.3	21.7
SCADA & Communications	5.4	5.6	5.7
Network Operations	12.1	13.3	13.2
IT&T	6.6	7.3	7.8
Network Support	31.6	35.5	40.6
Total Opex Expenditure	76.9	82.9	89.0

Network Operations Expenditures

\$M	Actual			Forecast			
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Distribution	3.9	5.2	7.4	7.2	8.5	8.8	9.2
Transmission	7.7	8.9	8.2	9.5	12.1	13.3	13.2