Victorian Third Party Access Code for Natural Gas Pipeline Systems: Access Arrangement Information for Distribution Pipeline by Westar Pty Ltd and Westar (Assets) Pty Ltd

Final as at 30 November 1998

TABLE OF CONTENTS

1. INTRODUCTION	1
2. TARGET REVENUE	2
3. COST ALLOCATION AND TARIFF SETTING	15
4. SYSTEM CAPACITY AND VOLUME ASSUMPTIONS	18
5. KEY PERFORMANCE INDICATORS	20

ACCESS ARRANGEMENT INFORMATION FOR DISTRIBUTION PIPELINE BY WESTAR PTY LTD AND WESTAR (ASSETS) PTY LTD

1. INTRODUCTION

Energy Projects Division of the Victorian Department of Treasury and Finance ("EPD") on behalf of Westar Pty Ltd and Westar (Assets) Pty Ltd (together "Westar") submitted to the Office of the Regulator General (the "ORG"):

- on 3 November 1997 Access Arrangement Information ("original AAI"); and
- on 16 March 1998 supplementary Access Arrangement Information ("supplementary AAI").

On 5 October 1998, the ORG issued its Final Decision ("Final Decision 1") on the Access Arrangement for Westar.

This Access Arrangement Information ("final AAI") is submitted together with the revised Access Arrangement for Westar as required by Final Decision 1.

The final AAI must be read together with the original AAI and supplementary AAI.

The final AAI updates all relevant tables contained in the original AAI and supplementary AAI having regard to Final Decision 1.

Words and phrases defined in the revised Access Arrangement, original AAI and supplementary AAI, as the case may be, have the meaning given to them in those documents unless the context otherwise requires.

Except as varied by Final Decision 1, or except where expressly set out in the final AAI or revised Access Arrangement, as the case may be, the statements of methodology contained in the original AAI or supplementary AAI apply to the tables contained in the final AAI.

All financial values in the tables are in nominal terms unless otherwise stated.

2. TARGET REVENUE

Table 1: Asset Life

Asset Type	Economic Life Years	Minimum RL Years
Mains and Services		
Cast Iron	50-120	5
Steel - Low Pressure (unprotected)	30-60	5
Steel - Medium and High Pressure (protected)	120	5
PE/PVC	60	5
Transmission Pressure Pipeline	60	5
Domestic Meters	25	5
Meter/Regulators		
Commercial	30	5
• System	30	5
Transmission Pressure	45	5
Field Regulators	50	5
City Gates	50	5
Other Regulators	50	5
SCADA	5-7	5

Note: Formerly table 2.2(c)(4) of original AAI

Table 2: Asset Valuation

Asset Type as at 1 July 1997	RC \$m	DRC \$m	ORC \$m	ODRC \$m
Mains	558.0	391.4	441.2	302.2
Security of Supply			24.5	16.8
Services	273.1	210.3	273.1	210.3
Transmission Pressure	111.9	59.6	110.2	58.5
Domestic Meters	75.4	52.7	75.4	52.7
Meter/Regulators				
CommercialSystem	15.8 10.4	9.6 6.3	15.8 10.4	9.6 6.3
Field Regulators	20.5	12.4	8.3	5.0
City Gates	8.4	6.3	8.1	6.1
Other Regulators	11.4	5.0		4.1
SCADA	2.8	2.0	2.8	2.0
Total	1,087.6	755.7	969.7	673.6

Note: Formerly table 2.2(d)(1) of original AAI

Table 3: Asset Groups

Asset Categories as at 1 January 1998	ODRC \$m	Adjusted ODRC \$m
Land and Buildings	11.5	11.5
Mains and Services	602.9	560.8
Meters - Domestic	52.4	40.0
Meters - Other	15.8	15.8
Equipment and Vehicles and others	3.6	3.6
Total	686.2	631.7

Note: Formerly tables 2.2(d)(2) and 2.3(b) of original AAI

Table 4: Asset Remaining Lives

Total Fixed Asset Categories as at 1 January 1998	Values \$m	Weighted Average RL yrs
Land and Buildings	11.5	36
Mains and Services	560.8	39
Meters - Domestic	40.0	17
Meters - Other	15.8	18
Equipment and Vehicles and other	3.6	5
Total	631.7	

Note: Formerly table 2.4 of original AAI

Table 5: Asset Values Westar

Asset Categories as at 1 January 1998	Pre Asset Write Down \$m	Post Asset Write Down \$m
Land and Buildings	11.5	11.5
Mains and Services	602.9	560.8
Meters - Domestic	52.4	40.0
Meters - Other	15.8	15.8
Equipment and Vehicles and other	3.6	3.6
Total	686.2	631.7

Note: Formerly table 7 of supplementary AAI

Table 6: Asset Values Westar Central Zone

Asset Categories as at 1 January 1998	ategories as at 1 January 1998 Pre Asset Write Down \$m			
Land and Buildings	9.2	9.2		
Mains and Services	449.8	449.8		
Meters - Domestic	40.0	40.0		
Meters - Other	11.3	11.3		
Equipment and Vehicles	2.9	2.9		
Total	513.2	513.2		
Total	513.2	513.2		

Note: Formerly table 8 of supplementary AAI

Table 7: Asset Values Westar West Zone

Asset Categories as at 1 January 1998	Pre Asset Write Down \$m	Post Asset Write Down \$m
Land and Buildings	2.2	2.2
Mains and Services	153.2	111.1
Meters - Domestic	12.4	0.0
Meters - Other	4.5	4.5
Equipment and Vehicles	0.7	0.7
Total	173.0	118.5

Note: Formerly table 9 of supplementary AAI

Table 8: Capital Expenditure

		Year Ending 31 December			
Asset Category	1998	1999	2000	2001	2002
	\$m	\$m	\$m	\$m	\$m
Mains and Services	17.7	16.2	18.1	18.4	18.8
Meters - Domestic	1.3	1.3	1.5	1.5	1.5
Equipment and Vehicles	1.9	3.0	2.7	0.6	0.5
Total	20.9	20.5	22.3	20.5	20.8

Note: Formerly table 2.5(b) of original AAI

Table 9: Total Capital Expenditure

Nature of Capital Expenditure		Year	Ending 31 De	ecember	
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
New Resident Investment	10.9	9.8	11.6	12.1	12.3
New Commercial & Industrial Investment	1.7	1.8	2.0	2.1	2.1
Renewal of Mains	2.0	2.1	2.3	2.3	2.3
Renewal of Services	2.4	2.4	2.2	1.9	2.0
Other	2.0	1.4	1.5	1.5	1.6
Equipment and Vehicles	1.9	3.0	2.7	0.6	0.5
Total	20.9	20.5	22.3	20.5	20.8

Note: Formerly table 14 of supplementary AAI

Table 10: Total Capital Expenditure Westar Central Zone

Nature of Capital Expenditure		Year	Ending 31 De	ecember	
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
New Residential Investment	5.4	6.2	8.0	8.4	8.4
New Commercial & Industrial Investment	1.4	1.3	1.4	1.5	1.5
Renewal of Mains	1.0	1.1	1.2	1.2	1.2
Renewal of Services	1.1	0.9	0.8	0.8	0.8
Other	0.5	-	-	-	-
Equipment and Vehicles	1.8	1.9	2.5	0.4	0.3
Total	11.2	11.4	13.9	12.3	12.2

Note: Formerly table 15 of supplementary AAI

Table 11: Total Capital Expenditure Westar West Zone

Nature of Capital Expenditure		Year	Ending 31 De	ecember	
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
New Residential Investment	5.5	3.6	3.6	3.7	3.9
New Commercial & Industrial Investment	0.3	0.5	0.6	0.6	0.6
Renewal of Mains	1.0	1.0	1.1	1.1	1.1
Renewal of Services	1.3	1.5	1.4	1.1	1.2
Other	1.5	1.4	1.5	1.5	1.6
Equipment and Vehicles	0.1	1.1	0.2	0.2	0.2
Total	9.7	9.1	8.4	8.2	8.6

Note: Formerly table 16 of supplementary AAI

Table 12: Major Capital Expenditure Projects

Capital Expenditure - Major Projects	Year Ending 31 December					
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m	
Westar (West Zone) Wimmera Natural Gas Conversion	3.35	-	-	-	-	

Note: Formerly table 17 of supplementary AAI

Table 13: Total Current Cost Depreciation

Asset Category		Year Ending 31 December					
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m		
Land and Buildings	0.3	0.3	0.3	0.4	0.4		
Mains and Services	14.9	15.6	16.3	17.0	17.9		
Meters - Domestic	2.4	2.6	2.7	2.8	2.9		
Meters - Other	0.9	0.9	0.9	1.0	1.0		
Equipment and Vehicles	0.9	1.4	2.1	2.5	2.6		
Total	19.4	20.8	22.3	23.7	24.8		

Note: Formerly table 11 of supplementary AAI

Table 14: Current Cost Depreciation Westar Central Zone

Asset Category		Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m	
Land and Buildings	0.3	0.3	0.3	0.3	0.3	
Mains and Services	12.0	12.6	13.2	13.8	14.5	
Meters - Domestic	2.0	2.1	2.2	2.3	2.4	
Meters - Other	0.7	0.7	0.7	0.8	0.8	
Equipment and Vehicles	0.7	1.2	1.7	2.0	2.1	
Total	15.7	16.9	18.1	19.2	20.1	

Note: Formerly table 12 of supplementary AAI

Table 15: Current Cost Depreciation Westar West Zone

Asset Category		Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m	
Land and Buildings	0.0	0.0	0.0	0.1	0.1	
Mains and Services	2.9	3.0	3.1	3.2	3.4	
Meters - Domestic	0.4	0.5	0.5	0.5	0.5	
Meters - Other	0.2	0.2	0.2	0.2	0.2	
Equipment and Vehicles	0.2	0.2	0.4	0.5	0.5	
Total	3.7	3.9	4.2	4.5	4.7	

Note: Formerly table 13 of supplementary AAI

Table 16: Total O&M Costs

Total O&M Costs		Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m	
Labour	10.5	9.9	9.9	9.7	10.1	
Materials	0.3	0.4	0.3	0.3	0.3	
Outside Services	5.8	5.2	4.2	4.1	4.2	
Alliance Partner Costs	11.1	6.7	7.6	7.7	7.9	
Computer and Office Equipment	0.5	0.5	0.5	0.5	0.5	
Other Costs	4.9	4.4	4.4	4.5	4.6	
Contracted Services	11.8	9.8	10.2	10.3	10.6	
Transmission Connection Costs	1.5	1.9	1.9	1.9	1.8	
Less Capitalised Labour and Overheads	(8.3)	(6.9)	(6.4)	(6.4)	(6.5)	
Total Costs	38.1	31.9	32.6	32.6	33.5	

Note: Formerly table 18 of supplementary AAI

Table 17: Property Taxes

	Year Ending 31 December					
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m	
Property Taxes	0.3	0.4	0.4	0.4	0.4	

Note: Formerly table 19 of supplementary AAI

Table 18: Total O&M Westar Central Zone

O&M Costs	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
Labour	7.7	7.2	7.2	7.2	7.4
Materials	0.2	0.3	0.2	0.2	0.2
Outside Services	4.3	3.8	3.1	3.0	3.1
Alliance Partner Costs	8.1	4.9	5.6	5.6	5.8
Computer and Office Equipment	0.4	0.4	0.4	0.4	0.4
Other Costs	3.6	3.2	3.2	3.3	3.4
Contracted Services	8.6	7.2	7.5	7.6	7.7
Transmission Connection Costs	1.1	1.4	1.4	1.4	1.4
Less Capitalised Labour and Overheads	(6.1)	(5.0)	(4.7)	(4.7)	(4.8)
Total Costs	27.9	23.4	23.9	24.0	24.6

Note: Formerly table 21 of supplementary AAI

Table 19: Total O&M Westar West Zone

O&M Costs	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
Labour	2.8	2.7	2.7	2.5	2.7
Materials	0.1	0.1	0.1	0.1	0.1
Outside Services	1.5	1.4	1.1	1.1	1.1
Alliance Partner Costs	3.0	1.8	2.0	2.1	2.1
Computer and Office Equipment	0.1	0.1	0.1	0.1	0.1
Other Costs	1.3	1.2	1.2	1.2	1.2
Contracted Services	3.2	2.6	2.7	2.7	2.9
Transmission Connection Costs	0.4	0.5	0.5	0.5	0.4
Less Capitalised Labour and Overheads	(2.2)	(1.9)	(1.7)	(1.7)	(1.7)
Total Costs	10.2	8.5	8.7	8.6	8.9

Note: Formerly table 22 of supplementary AAI

Table 20: Overhead and Marketing Costs

Overhead and Marketing Costs	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
Overhead Costs	11.3	10.2	9.5	8.6	9.0
Marketing Costs	2.1	1.9	1.9	2.0	2.0
Operational Costs	24.7	19.8	21.2	22.0	22.5
Total O&M Costs	38.1	31.9	32.6	32.6	33.5

Note: Formerly table 27 of supplementary AAI

Table 21: Overhead and Marketing Costs Westar Central Zone

Overhead and Marketing Costs		Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m	
	0.2	7.5	7.0			
Overhead costs	8.3	7.5	7.0	6.3	6.6	
Marketing costs	1.5	1.4	1.4	1.5	1.5	
Operational costs	18.1	14.5	15.5	16.2	16.5	
Total O&M Costs	27.9	23.4	23.9	24.0	24.6	

Note: Formerly table 28 of supplementary AAI

Table 22: Overhead and Marketing Costs Westar West Zone

Overhead and Marketing Costs		Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m	
Overhead Costs	3.0	2.7	2.5	2.3	2.4	
Marketing Costs	0.6	0.5	0.5	0.5	0.5	
Operational Costs	6.6	5.3	5.7	5.8	6.0	
Total O&M Costs	10.2	8.5	8.7	8.6	8.9	

Note: Formerly table 29 of supplementary AAI

Table 23: Costs Allocation Between Regulated and Unregulated Costs

Cost Allocation	Gross Cost \$m	% to Westar	Kinetik Cost \$m	Westar Cost \$m
Management Costs				
Establishment Agent		50.0		
Human Resources Costs				
Human Resources Manager		66.7		
Finance & Secretarial Costs				
CFO		66.7		
Financial Controller		66.7		
Financial Accounting Support		50.0		
Administrative Support		60.0		
Legal Support		60.0		
Total	1.7		0.7	0.9

Note: Formerly table 30 of supplementary AAI

Table 24: Excluded Service Revenue

	Year ending 31 December					
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m	
Revenue - Excluded Services	2.0	1.8	2.0	2.1	2.0	

Note: Formerly table 2.8(c) of original AAI

Table 25: UAFG Benchmarks

	Small Customers (<250,000 GJ p.a.)	Large Customers (>250,000 GJ p.a.)
Proposed Benchmarks	2.8%	0.3%

Note: Formerly table 2.8(d) of original AAI

Table 26: Adjustment of Leakage Rates to GASCOR Network

Pipe	Recommended Leakage Rates m3/hr/km at 30 mb	GASCOR Leakage Low Pressure m3/hr/km at 1.8kPa	GASCOR Leakage Medium Pressure m3/hr/km at 50 kPa
Steel <= 3 inch	0.0657	0.0509	0.2499
Steel >=4 inch	0.4694	0.3636	0.2449
Spun CI<=5 inch	0.2635	0.2041	0.5977
Spun CI 6-7 inch	0.1895	0.1468	0.4299
Spun CI>=8 inch	0.3879	0.3005	0.8798
Pit Cast <=3 inch	0.9819	0.7606	n/a
Pit Cast 4-5 inch	0.7022	0.5439	1.5926
Pit Cast 6-7 inch	0.3951	0.3060	0.8961
Pit Cast 8-11 inch	1.4612	1.1319	3.3142
Pit Cast >=12 inch	3.0631	2.3726	6.9472
PVC	n/a	0.1000	n/a
Ductile iron<=5 inch	0.1987	0.1539	n/a
Ductile iron>=6 inch	0.1215	0.0941	n/a
All PE	0.0208	0.0161	0.0849

Note: Formerly table 23 of supplementary AAI

Table 27: Distribution Leakage Allocation

Company		Low Pressure 1.8kPa Medium Pressure 50 kPa		High Pro 250 k		Totals		
	Length km	TJ	Length km	TJ	Length km	TJ	Length km	TJ
Multinet	3,473	440	1,112	140	4,016	220	8,601	800
Stratus	1,720	200	127	90	5,467	300	7,314	590
Westar	2,151	210	782	70	4,252	230	7,185	510
Totals	7,344	850	2,021	300	13,735	750	23,100	1,900

Note: Formerly table 24 of supplementary AAI

Table 28: Left Over Allocation

Company	Billed Sales PJ	Percent of Billed Sales %	Left Over TJ
Multinet	56.1	32	361
Stratus	54.3	31	350
Westar	64.4	37	417
Totals	174.8	100	1,128

Note: Formerly table 25 of supplementary AAI

Table 29: Total UAFG Allocation

Company	Issues PJ	Issues PJ	Leakage PJ	Leftover exc PFF TJ	Total UAFG TJ	UAFG %
Multinet		49	800	361	1,161	2.4
Stratus		36	590	350	940	2.6
Westar		38	510	417	927	2.5
Multinet Distribution Transmission	56				64	0.1
Stratus Distribution Transmission	54				54	0.1
Westar Distribution Transmission	64				40	0.1
TPA					367	0.2
Total	174	123	1,900	1,128	3,553	

Note: Formerly table 26 of supplementary AAI

Table 30: Target Revenue

Target Revenue Component		Year Ending 31 December						
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m			
O&M Costs	38.1	31.9	32.6	32.6	33.5			
Depreciation	19.4	20.8	22.3	23.7	24.8			
Return on Assets	50.8	52.2	53.6	54.8	56.0			
Total	108.3	104.9	108.5	111.1	114.3			

Note: Formerly table 1 of supplementary AAI

Table 31: WACC Parameters Table

Variable	Value
Risk free rate	6% nominal
	3.4% real
CPI	2.5%
Market Risk Premium	6%
Cost of Debt (margin over risk free rate)	120 basis points
Asset Beta	0.55
Equity Beta	1.2
Capital Structure	60% debt to total assets
Franking credit value	50%
Effective tax rate	36%
Post tax equity cost from CAPM:	
Nominal	13.2%
Real	10.4%
Real pre tax WACC:	7.75%

Note: Formerly table at page 219 of Final Decision 2

Table 32: Return on Assets

Zone		Year Ending 31 December						
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m			
Westar Central Zone	37.5	38.5	39.6	40.4	41.3			
Westar West Zone	13.3	13.7	14.0	14.4	14.7			
Total	50.8	52.2	53.6	54.8	56.0			

Note: Formerly table 2 of supplementary AAI

3. COST ALLOCATION AND TARIFF SETTING

Table 33: DCOS Customer Groupings

Group	Group Description	Approximate Customer Numbers
V1	Less than 500 GJ per annum	410,000
V2	500 GJ to 2,000 GJ per annum	1,400
V3	2,000 GJ to 5,000 GJ per annum	345
V4	5,000 GJ to 7,000 GJ per annum	68
V5	7,000 GJ to 10,000 GJ per annum	113
D1	Greater than 10,000 GJ per annum and less than 5 GJ MHQ	35
D2	Greater than 10,000 GJ per annum and 5 to 10 GJ MHQ	62
D3	10 to 50 GJ MHQ	142
D4	50 to 70 GJ MHQ	5
D5	70 to 130 GJ MHQ	14
D6	130 to 210 GJ MHQ	6
D7	210 to 440 GJ MHQ	10
D8	440 to 800 GJ MHQ	2
D9	Greater than 800 GJ MHQ	0

Note: Formerly table 3.3(b) of original AAI

Table 34: Simplified Tariff D Data - Initial Rate Estimate

Group MHQ	No. of Customers	Group Demand	Target Revenue	Tariff Rates	Revenue Recovered	Over (Under) Recovery		Squared Error
		MHQ	\$'000	\$/GJ /MHQ	\$'000	\$'000	%	Millions
D1: 0 to 10	100	600	750	1,000	600	(150)	(20)	22,500
D2: 10 to 50	115	2,600	2,500	1,000	2,600	100	4	10,000
D3: >50	5	300	250	1,000	300	50	20	2,500
			3,500		3,500	0	0	35,000

Note: Formerly table 4 of supplementary AAI

Table 35: Simplified Tariff D Data - Final Rates

Group MHQ	No. of Customers	Group Demand	Target Revenue	Tariff Rates	Revenue Recovered	Over (Under) Recovery		Squared Error
		MHQ	\$'000	\$/GJ/MHQ	\$'000	\$'000	%	Millions
D1: 0 to 10	100	600	750	1,251	751	-1	-0	0
D2: 10 to 50	115	2,600	2,500	736	2,503	3	0	11
D3: >50	5	300	250	736	247	-3	-1	12
			3,500		3,500	0	0	23

Note: Formerly table 5 of supplementary AAI

Table 36: Tariff D Billing Example One

Months	Metered Quantity GJ	GJ/MHQ Assumption (a)	Annual Bill Assumption (b)=(a)*1,200 \$	Paid to Date $(c_n)=(c_{n-1})+(f_{n-1})$	To Pay (d)=(b)-(c)	Months to Bill (e)	Bill (f)=(d)/(e) \$
Jan	4	10	12,000	0	12,000	12	1,000
Feb	8	10	12,000	1,000	11,000	11	1,000
Mar	10	10	12,000	2,000	10,000	10	1,000
Apr	12	12	14,400	3,000	11,400	9	1,267
May	10	12	14,400	4,267	10,133	8	1,267
Jun	8	12	14,400	5,533	8,867	7	1,267
Jul	14	14	16,800	6,800	10,000	6	1,667
Aug	10	14	16,800	8,467	8,333	5	1,667
Sep	8	14	16,800	10,133	6,667	4	1,667
Oct	15	15	18,000	11,800	6,200	3	2,067
Nov	6	15	18,000	13,867	4,133	2	2,067
Dec	7	15	18,000	15,933	2,067	1	2,067
Total Paid							18,000

Note: Formerly table 3.4(b)(1) of original AAI

Table 37: Tariff D Billing Example Two

Months	Metered Quantity GJ	GJ/MHQ Assumption (a)	Annual Bill Assumption (b)=(a)*1,200 \$	Paid to Date $(c_n)=(c_{n-1})+(f_{n-1})$	To Pay (d)=(b)-(c) \$	Months to Bill (e)	Bill (f)=(d)/(e) \$
Jan	4	10	12,000	0	12,000	12	1,000
Feb	8	10	12,000	1,000	11,000	11	1,000
Mar	7	10	12,000	2,000	10,000	10	1,000
Apr	8	10	12,000	3,000	9,000	9	1,000
May	8	10	12,000	4,000	8,000	8	1,000
Jun	7	10	12,000	5,000	7,000	7	1,000
Jul	9	10	12,000	6,000	6,000	6	1,000
Aug	4	10	12,000	7,000	5,000	5	1,000
Sept	6	9	10,800	8,000	2,800	4	700
Oct	9	9	10,800	8,700	2,100	3	700
Nov	6	9	10,800	9,400	1,400	2	700
Dec	7	9	10,800	10,100	700	1	700
Total Paid							10,800

Note: Formerly table 3.4(b)(2) of original AAI

4. SYSTEM CAPACITY AND VOLUME ASSUMPTIONS

Table 38: Tariff V Forecast Volumes

Zone	1998	1999	2000	2001	2002
	ТЈ	TJ	TJ	TJ	TJ
Central	20,321	20,579	21,217	21,827	22,719
West	6,827	7,229	7,461	7,675	7,988
Total	27,148	27,808	28,678	29,502	30,707

Note: Formerly table 5.2(a) of original AAI

Table 39: Forecast Customer Numbers

Zone	1998	1999	2000	2001	2002
	'000	'000	'000	'000	'000
Central	315	323	331	338	345
West	101	104	106	108	111
Total	417	427	437	446	456

Note: Formerly table 5.2(b) of original AAI

Table 40: Annual Volume Forecast

TJ	1998	1999	2000	2001	2002
Injection on 5 peak days					
Tariff V	820	843	866	890	913
Tariff D	712	714	719	722	725
• Total	1,532	1,557	1,585	1,612	1,638
Anytime Volume					
Tariff V	27,148	27,808	28,678	29,502	30,707
Tariff D	45,808	45,751	46,805	47,073	47,190
• Total	72,956	73,559	75,483	76,575	77,897
Peak Demand (Tariff D) 5 peak days	793	795	792	796	800
MHQ (Tariff D)	11	11	11	11	11

Note: Formerly table 31 of supplementary AAI

Table 41: Tariff V Consumption by Rate Block 1998

	West Zone		Central	Central Zone		al
Tariff V Rate Block GJ/day	Peak Volume TJ	Off Peak Volume TJ	Peak Volume TJ	Off Peak Volume	Peak Volume TJ	Off Peak Volume TJ
<0.1	1,209	1,798	3,674	5,609	4,883	7,407
>0.1 - 0.2	813	535	2,687	1,694	3,500	2,229
>0.2 - 1.4	1,093	419	3,739	1,098	4,831	1,517
>1.4	539	422	880	941	1,419	1,363
Total	3,653	3,174	10,979	9,342	14,633	12,516

Note: Formerly table 5.2(c) of original AAI

Table 42: Tariff D Demand by Rate Block 1998

Tariff D Rate Block (GJ MHQ)	MHQ GJ
>0 - 10	2,554
>10 - 50	3,529
>50	5,200
Total	11,284

Note: Formerly table 5.2(d) of original AAI

Table 43: System Load Profile

System Load Profile			M	onths		
% of Annual Volumes	Jan	Mar	May	Jul	Sept	Nov
	Feb	Apr	Jun	Aug	Oct	Dec
Westar Central						
Tariff V	8.1%	11.0%	23.8%	28.8%	18.4%	9.9%
Tariff D	15.0%	16.3%	17.3%	17.9%	17.6%	15.9%
Westar West						
Tariff V	8.2%	11.2%	23.7%	28.5%	18.3%	10.0%
Tariff D	15.0%	16.3%	17.3%	17.9%	17.6%	15.9%

Note: Formerly table 32 of supplementary AAI

5. KEY PERFORMANCE INDICATORS

Table 44: Comparable Operational KPIs

Company	Gascor	Alinta	AGL	Envestra	Envestra
State	Victoria	W.A.	N.S.W.	S.A.	QLD
Year	94/95	95/96	95/96	96/97	96/97
\$m ⁽¹⁾	244.50	48.50	167.90	40.50	11.30
\$m/1000 km	10.78	5.06	8.67	6.44	6.28
\$/customer	184.00	133.00	250.00	126.00	158.00
\$/GJ	1.40	1.03	1.78	1.00	3.14

Note: Formerly table 6.2(a) of original AAI

Table 45: Westar Operational KPIs

Real 1998 \$	1998	1999	2000	2001	2002
\$m	38.1	31.10	31.10	30.30	30.3
\$m/1000 km	5.27	4.10	3.84	3.68	3.64
\$/customer	91.35	72.83	71.08	67.93	66.53
\$/GJ	0.52	0.42	0.41	0.40	0.39

Note: Formerly table 6.2(b) of original AAI

Table 46: Westar KPIs

Operational Costs KPIs		Year Ending 31 December					
Real 1998 \$	1998	1999	2000	2001	2002		
Westar Central Zone							
Operating costs, \$m in 1998 dollars	27.90	22.80	22.80	22.30	22.20		
Cost per pipe length, \$m / 1,000 km	5.56	4.32	4.04	3.90	3.81		
Cost per customer, \$ / customer	88.49	70.57	68.83	66.01	64.48		
Cost per volume delivered, \$ / GJ	0.46	0.37	0.36	0.35	0.34		
Westar West Zone							
Operating costs, \$m in 1998 dollars	10.20	8.30	8.30	8.00	8.10		
Cost per pipe length, \$m / 1,000 km	4.61	3.59	3.37	3.21	3.20		
Cost per customer, \$ / customer	100.99	79.74	78.12	73.94	72.61		
Cost per volume delivered, \$ / GJ	0.91	0.72	0.69	0.66	0.64		

Note: Formerly table 33 of original AAI

Table 47: Comparison of Distribution Tariffs

Including Trunk Costs (\$/GJ actual)	10,000 GJ/year Customer	100,000 GJ/year Customer	1,000,000 GJ/year Customer
AGL Delivery Points			
Horsely Park	0.552	0.412	0.361
Auburn	0.798	0.621	0.555
Flemington	0.888	0.697	0.625
Mortlake	1.555	1.261	1.149
Haberfield	1.268	1.019	0.924
Tempe	1.161	0.928	0.840
Mascot	1.375	1.109	1.008
Willoughby	4.471	3.729	3.441
Victorian Distribution Businesses' Charges			
Multinet	0.722	0.272	0.039
Stratus	0.889	0.326	0.046
Westar	0.900	0.348	0.078

Note: Formerly table 6.3 of original AAI

Table 48 Westar Cost Allocation Diagram

				Cost Allo
Numbers in parentheses refer to allocation notes above.			[9]	
Costs allocated are based on full cost of supply, i.e., before ODRC reduction for Government objectives.			Customer	
			West [10]	
			Tariff V	8.1
			Tariff D	0.7 8.7
			<u> </u>	8./
		Mains [4]	Central [10]	
		West 8.7	Tariff V	21.1
		Central 23.7	Tariff D	2.6
	Return on Assets [1]	32.5		23.7
	Mains 32.5			
	Meters 5.4	Meters [5]	West [11]	
	Services 17.2	West 1.3	Tariff V	5.5
	55.1	Central 4.1		5.5
		5.4		
			Central [11]	17.1
		Services [5]	Tariff V	
		West 4.2 Central 13.0		17.1
		Central 13.0 17.2	West [10]	
		17.2		
		Mains [4]	Tariff V Tariff D	2.9 0.2
Westar		Mains [4] West 3.1	Tariff D	3.1
Return on Assets 55.1		Central 8.5		3.1
Depreciation 213	Depreciation [2]	11.6	Central [10]	
Operations 38.1	Mains 11.6		TariffV	7.7
114.5	Meters 40	Meters [5]	Tariff D	0.8
	Services 5.7	West 1.0		8.5
	21.3	Central 3.0		
		4.0	West [11]	
			Tariff V	2.4
		Services [5]		2.4
		West 1.4		
		Central 4.3	Central [11]	
		5.7	Tariff V	7.3
				7.3
		Mains [6]		
		West 6.5	West [12]	
		Central 16.4	Tariff V	6.2
	Operations [3]	22.9	Tariff D	0.3
	Mains 22.9			6.5
	Meters 6.1 Services 9.1	Meters [7] West 1.5	Central [12]	
	Services 9.1 38.1	West 1.5 Central 4.6	Tariff V	15.5
	38.1	6.1	Tariff D	0.9
		6.1	Tariff D	16.4
		Services [8]		10.4
		West 2.2	West [13]	T 1
		Central 6.9	Tariff V	3.5
		9.1	Excluded	0.2
		<u> </u>		3.7
			Central [13]	
			Tariff V	10.6
			Excluded	0.9
				11.5
				Cost Allo
				per Customer
			Westar	1
Westar	Westar	Westar	Tariff V - West	28.6
Return on Assets 55.1	Mains 67.0		Tariff V - Central	79.3
Depreciation 21.3	Meters 15.5	West 29.9	Tariff D	79.3 5.5 1.1
Operations 38.1 114.5	Services 32.0 114.5	Central 84.6	Excluded	1.1 114.5
114.5	1143	114.5		114.5

Note: Formerly table 5 in the supplementary AAI.

Tariff V - Wes Group V1 Group V2 Group V3 Group V4 Group V5

Tariff V - Cer Group V1 Group V2 Group V3 Group V4 Group V5

Group D1
Group D2
Group D3
Group D4
Group D5
Group D6
Group D7
Group D7
Group D8
Group D9

Excluded

Westar Tariff V - West Tariff V - Centr Tariff D Excluded