

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

Final as at 30 November 1998

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

1. INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

Energy Projects Division of the Victorian Department of Treasury and Finance (“EPD”) on behalf of Multinet Gas Pty Ltd and Multinet (Assets) Pty Ltd (together “Multinet”) 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 Multinet.

This Access Arrangement Information (“final AAI”) is submitted together with the revised Access Arrangement for Multinet 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 Pressure & 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 the original AAI

Table 2: Asset Valuation

Asset Type As at 1 July 1997	RC \$m	DRC \$m	ORC \$m	ODRC \$m
Mains	504.9	324.2	412.8	254.3
Security of Supply	-	-	32.6	20.1
Services	386.6	285.6	386.6	285.6
Transmission Pressure	101.2	42.6	64.1	29.3
Domestic Meters	107.7	77.1	107.7	77.1
Meter/Regulators				
• Commercial	31.6	19.3	31.7	19.3
• System	29.6	17.9	29.6	17.9
Field Regulators	20.2	12.2	10.7	6.5
City Gates	0.4	0.3	-	-
Other Regulators	15.5	8.0	-	6.7
SCADA	2.7	2.0	2.7	2.0
Total	1,200.4	789.2	1,078.5	718.8

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

Table 3: Asset Groups

Asset Categories as at 1 January 1998	ODRC \$m
Land and Buildings	16.9
Mains and Services	604.6
Meters - Domestic	76.5
Meters - Other	37.2
Equipment and Vehicles and other	5.0
Total	740.2

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

Table 4: Asset Remaining lives

Total Asset Categories as at 1 January 1998	Values \$m	Weighted Average RL Years
Land and Buildings	16.9	36
Mains and Services	604.6	37
Meters - Domestic	76.5	17
Meters - Other	37.2	18
Equipment and Vehicles and other	5.0	5
Total	740.2	

Note: Formerly table 2.4 in original AAI

Table 5: Capital Expenditure

Asset Category	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
Mains and Services	31.1	28.5	28.1	25.1	22.7
Meters - Domestic	2.6	2.5	2.5	2.2	2.0
Equipment and Vehicles	0.8	0.8	0.8	0.9	0.9
Total	34.5	31.8	31.4	28.2	25.6

Note: Formerly table 2.5(b) of original AAI

Table 6: Total Capital Expenditure

Nature of Capital Expenditure	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
New Resident Investment	8.7	8.1	7.6	5.1	2.9
New Commercial & Industrial Investment	2.5	2.6	2.7	1.7	0.9
Renewal of Mains	4.0	4.1	4.1	4.2	4.3
Renewal of Services	7.7	7.8	7.9	8.0	8.2
Supply Mains	2.8	2.8	2.8	2.9	3.0
Other	8.0	5.6	5.5	5.5	5.5
Equipment and Vehicles	0.8	0.8	0.8	0.8	0.8
Total	34.5	31.8	31.4	28.2	25.6

Note: Formerly table 8 of supplementary AAI

Table 7: Total Current Cost Depreciation

Asset Category	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
Land and Buildings	0.5	0.5	0.5	0.5	0.5
Mains and Services	17.0	17.9	19.1	20.1	21.1
Meters - Domestic	4.6	4.9	5.1	5.3	5.5
Meters - Other	2.1	2.2	2.2	2.3	2.3
Equipment and Vehicles	1.1	1.3	1.5	1.7	2.0
Total	25.3	26.8	28.4	29.9	31.4

Note: Formerly table 7 of supplementary AAI

Table 8: Total O&M

Asset Category	Year ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
Labour	12.3	12.1	11.7	11.8	12.1
Materials	1.0	1.0	1.1	1.1	1.1
Outside Services	7.3	7.3	7.3	7.3	7.5
Alliance Partner Costs	11.9	11.2	11.6	11.9	12.3
Computer and Office Equipment	-	3.5	3.0	2.9	2.9
Property Taxes	0.8	0.6	0.6	0.6	0.6
Other Costs	9.2	5.0	5.4	5.2	5.4
Contracted Services	10.6	6.5	6.2	6.1	6.1
Transmission Connection Costs	1.5	1.9	1.9	1.8	1.8
Less Capitalised Labour and Overheads	(8.8)	(10.6)	(10.23)	(9.8)	(9.90)
Total Costs	45.8	38.5	38.6	38.9	39.9

Note: Formerly table 9 of supplementary AAI

Table 9: Overhead and Marketing Costs

Overhead and Marketing Costs	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
Overhead Costs	7.6	6.7	7.9	7.2	7.7
Marketing Costs	0.9	0.8	0.8	0.8	0.9
Operational Costs	37.3	31.0	29.9	30.9	31.3
Total O&M costs	45.8	38.5	38.6	38.9	39.9

Note: Formerly table 15 of supplementary AAI

Table 10: Cost Allocation Between Regulated and Unregulated Costs

Cost Allocation	Gross Cost \$m	% to Multinet	Ikon Cost \$m	Multinet Cost \$m
Management Costs				
CEO, Assistant and Office Costs		50%		
Directors Fees		50%		
Project Manager Costs		70%		
Human Resources Costs				
Staff and Office Costs of Human Resources Department		80%		
Finance & Secretarial Costs				
CFO and Secretary		50%		
Senior Finance Staff		60%		
Administrative Staff		70%		
Computer Mainframe and Office Costs		85%		
Total	3.7		1.2	2.5

Note: Formerly table 16 of supplementary AAI

Table 11: Excluded Services Revenue

Excluded Services Revenue	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
Revenue - Excluded Services	2.6	3.9	4.0	4.1	4.3

Note: Formerly table 2.8(c) of original AAI

Table 12: UAFG Benchmark

	Small Customers <250,000 GJ pa	Large Customers >250,000 GJ pa
Proposed Benchmarks	2.7%	0.3%

Note: Formerly table 2.8(d) of original AAI

Table 13: Adjustment of Leakage Rates to GASCOR Network

Pipe	Recommended Leakage Rates m ³ /hr/km at 30 mb	GASCOR Leakage Low Pressure m ³ /hr/km at 1.8kPa	GASCOR Leakage Medium Pressure m ³ /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 11 of supplementary AAI

Table 14: Distribution Leakage Allocation

Company	Low Pressure 1.8kPa		Medium Pressure 50 kPa		High Pressure 250 kPa		Totals	
	length km	TJ	length km	TJ	length km	TJ	length km	TJ
Multinet	3473	440	1112	140	4016	220	8601	800
Stratus	1720	200	127	90	5467	300	7314	590
Westar	2151	210	782	70	4252	230	7185	510
Totals	7344	850	2021	300	13735	750	23100	1900

Note: Formerly table 12 of supplementary AAI

Table 15: 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 13 of supplementary AAI

Table 16: 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	54				40	0.1
TPA					367	0.2
Total	174	123	1,900	1,128	3,553	

Note: Formerly table 14 of supplementary AAI

Table 17: Target Revenue

Target Revenue Component	Year Ending 31 December				
	1998 \$m	1999 \$m	2000 \$m	2001 \$m	2002 \$m
O&M Costs	45.8	38.5	38.6	38.9	39.9
Depreciation	25.3	26.8	28.4	29.9	31.4
Return on Assets	59.8	62.1	64.0	65.7	67.2
Total	130.9	127.4	131.0	134.5	138.5

Note: Formerly table 1 of supplementary AAI

Table 18: 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

3. COST ALLOCATION AND TARIFF SETTING

Table 19: DCOS Customer Groupings

Group	Group Description	Approximate Customer Numbers
V1	Less than 500 GJ per annum	583,000
V2	500 GJ to 2,000 GJ per annum	2,600
V3	2,000 GJ to 5,000 GJ per annum	660
V4	5,000 GJ to 7,000 GJ per annum	110
V5	7,000 GJ to 10,000 GJ per annum	80
D1	Greater than 10,000 GJ per annum and less than 5 GJ MHQ	40
D2	Greater than 10,000 GJ per annum and 5 to 10 GJ MHQ	90
D3	10 to 50 GJ MHQ	110
D4	50 to 70 GJ MHQ	4
D5	70 to 130 GJ MHQ	5
D6	130 to 210 GJ MHQ	4
D7	210 to 440 GJ MHQ	0
D8	440 to 800 GJ MHQ	0
D9	Greater than 800 GJ MHQ	0

Note: Formerly table 3.3(b) of original AAI

Table 20: Simplified Tariff D Data - Initial Rate Estimate

Group MHQ	No. of Customers	Group Demand MHQ	Target Revenue \$'000	Tariff Rates \$/GJ /MHQ	Revenue Recovered \$'000	Over (Under) Recovery		Squared Error Millions
						\$'000	%	
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 3 of supplementary AAI

Table 21: Simplified Tariff D Data - Final Rates

Group MHQ	No of Customers	Group Demand MHQ	Target Revenue \$'000	Tariff Rates \$/GJ/MHQ	Revenue Recovered \$'000	Over (Under) Recovery		Squared Error Millions
						\$'000	%	
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 4 of supplementary AAI

Table 22: 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 23: 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 24: Tariff V Forecast Volumes (TJ)

	1998	1999	2000	2001	2002
Total	43,297	43,979	44,617	45,252	45,446

Note: Formerly table 5.2(a) of original AAI

Table 25: Forecast Customer Numbers Tariff V

	1998	1999	2000	2001	2002
Total	587	592	597	601	605

Note: Formerly table 5.2(b) of original AAI

Table 26: Annual Volume Forecast

TJ	1998	1999	2000	2001	2002
Injection on 5 peak days					
• Tariff V	1,393	1,415	1,435	1,455	1,475
• Tariff D	294	294	294	294	295
• Total	1,687	1,708	1,729	1,749	1,770
Anytime Volume					
• Tariff V	43,297	43,979	44,617	45,252	45,446
• Tariff D	15,257	15,349	15,356	15,379	15,417
• Total	58,554	59,328	59,973	60,631	60,863
Peak Demand (Tariff D) 5 peak days	294	294	294	294	295
MHQ (Tariff D)	4	4	4	4	4

Note: Formerly table 17 of supplementary AAI

Table 27: Tariff V Consumption by Rate Block

Tariff V Rate Block GJ/day	Peak Volume TJ	Off Peak Volume TJ
<0.1	6,452	10,513
>0.1 - 0.2	4,908	4,174
>0.2 - 1.4	8,794	4,107
>1.4	2,038	2,311
Total	22,192	21,105

Note: Formerly table 5.2(c) of original AAI

Table 28: Tariff D Demand by Rate Block 1998

Tariff D Rate Block GJ MHQ	MHQ GJ
>0 - 50	3,500
>50	847
Total	4,347

Note: Formerly table 5.2(d) of original AAI

Table 29: System Load Profile

System Load Profile % of Annual Volumes	Months					
	Jan Feb	Mar Apr	May Jun	Jul Aug	Sept Oct	Nov Dec
Multinet						
Tariff V	7.2%	10.6%	24.3%	29.7%	18.8%	9.4%
Tariff D	15.0%	16.3%	17.3%	17.9%	17.6%	15.9%

Note: Formerly table 18 of supplementary AAI

5. KEY PERFORMANCE INDICATORS

Table 30: 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	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 31: Multinet Operational KPIs

Real 1998 \$	1998	1999	2000	2001	2002
\$m	45.80	37.60	36.80	36.10	36.20
\$m/1000 km	5.25	4.28	4.16	4.06	4.04
\$/customer	78.00	63.00	62.00	60.00	60.00
\$/GJ	0.78	0.63	0.61	0.60	0.59

Note: Formerly table 6.2(b) of original AAI

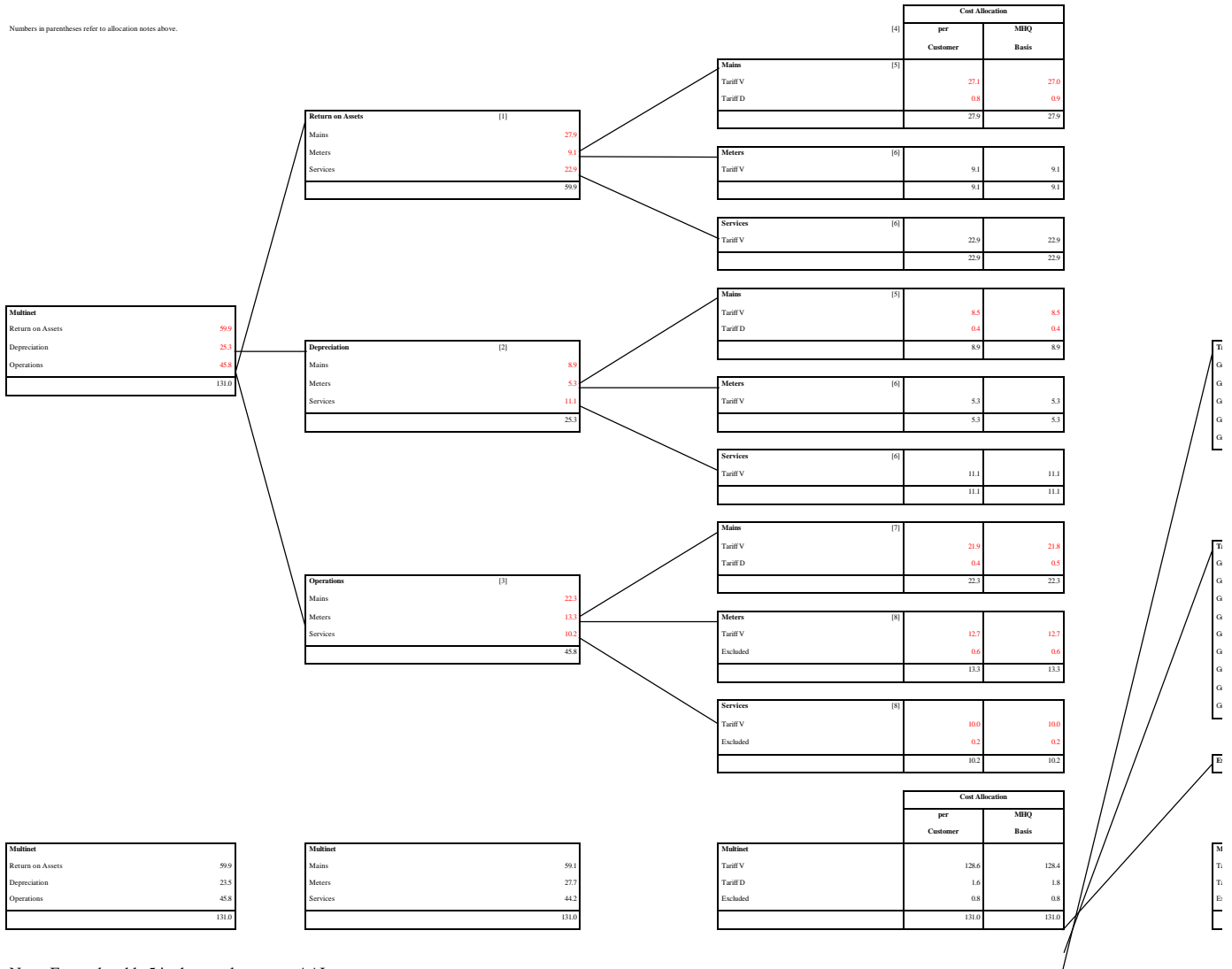
Table 32: Comparison of Distribution Tariffs

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 Business 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 33 Multinet Cost Allocation Diagram

Numbers in parentheses refer to allocation notes above.



Note: Formerly table 5 in the supplementary AAI.