

Access Arrangement Information for the Mid-West and South-West Gas Distribution Systems

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Economic Regulation Authority

WESTERN AUSTRALIA

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Access Arrangement Information

1 INTRODUCTION

1.1 Introduction

1. This document comprises the Access Arrangement Information (**AAI**) for the revised Access Arrangement for the ATCO Gas Australia Pty Ltd (**ATCO**) Mid-West and South-West Gas Distribution Systems (**GDS**) proposed and given effect from 1 October 2015 by the Economic Regulation Authority (**Authority**) pursuant to rule 64 of the National Gas Rules (**NGR**).
2. The purpose of this document is to set out the information necessary to enable users and prospective users of the GDS to understand the derivation of the elements of the Access Arrangement for the GDS for the fourth access arrangement period spanning from 1 July 2014 to 31 December 2019 (**Current Access Arrangement Period**) and for compliance with the NGR.

1.2 Description of ATCO Gas Australia Mid-West and South-West Gas Distribution Systems

3. The GDS is a system of non-contiguous gas distribution pipelines and associated facilities located in the Perth metropolitan area (including Ellenbrook, Rockingham and Mandurah), and in a number of regional centres in the south west of Western Australia.
4. The regional centres in which the GDS is located are:
 - Geraldton;
 - Eneabba;
 - Pinjarra;
 - Harvey;
 - Kemerton;
 - Bunbury;
 - Capel; and
 - Busselton.
5. Discrete distribution pipeline segments, or Sub-networks, make up the GDS. At the date of this Access Arrangement Information, these comprise in excess of 13,500 kilometres of high pressure, medium pressure, medium pressure/low pressure systems, and low pressure gas distribution pipelines. Gas is delivered into each of these Sub-networks from 15 receipt points immediately downstream of meter stations on the Dampier to Bunbury Natural Gas Pipeline, and from one receipt point on the Parmelia Pipeline.

1.3 Interpretation

6. Unless the contrary intention is expressed, words or phrases in this document have the same meaning as those defined in section 12 (Definitions and Interpretation) of the Access Arrangement for the GDS.
7. A reference in this document to:
 - **Earlier Access Arrangement Period** means the third Access Arrangement Period (2010 – 2014) which preceded the Current Access Arrangement Period; and
 - **First Access Arrangement Period** means the first Access Arrangement period (2000 – 2004).
8. Where a word or phrase has not been defined in this document then, unless the contrary intention is expressed, the word or phrase is to be given the meaning prescribed in the National Gas Access (Western Australia) Law, the National Gas Rules or the National Gas Regulations (as relevant).

1.4 Structure and Compliance

9. This document follows the structure of rule 72 of the NGR. Rule 72 sets out specific requirements for Access Arrangement Information relevant to revenue and price regulation. The specific requirements for Access Arrangement Information for an Access Arrangement Period which commences at the end of the Earlier Access Arrangement Period are summarised in Table 1 of this Access Arrangement Information.
10. Information in respect of each of the specific requirements shown in Table 1 is provided in sections 3 to 13 of this document. Section 2 sets out, in accordance with the requirement of Rule 73, the basis on which financial information is presented in the document.

Table 1 Specific requirements for access arrangement information

NGR	Requirement
Rule 72(1)(a)	Expenditure and pipeline usage over the Earlier Access Arrangement Period: (i) Capital Expenditure (by asset class) over the Earlier Access Arrangement Period; (ii) Operating Expenditure (by category) over the Earlier Access Arrangement Period; and (iii) pipeline usage over the Earlier Access Arrangement Period, in terms of minimum, maximum and average demand, and customer numbers in total and by tariff class (where "tariff class" is as defined in rule 69 of the NGR to mean customers for one or more reference services who constitute a tariff class under a full access arrangement (Tariff Class)).
Rule 72(1)(b)	Explanation of how the capital base is arrived at, and demonstration of how the capital base increased or diminished over the Earlier Access Arrangement Period.
Rule 72(1)(c)	Projected capital base over the Current Access Arrangement Period including a forecast of Conforming Capital Expenditure and of depreciation, and: (i) the basis for the forecast of Conforming Capital Expenditure used in making the projection; and (ii) a demonstration of how the depreciation used in making the projection has been derived by applying the depreciation method set out in the Access Arrangement for the GDS.
Rule 72(1)(d)	To the extent practicable, a forecast of pipeline capacity and utilisation of pipeline capacity over the Current Access Arrangement Period, and the basis on which the forecasts has been derived.
Rule 72(1)(e)	A forecast of Operating Expenditure over the Current Access Arrangement Period, and the basis on which the forecast has been derived.
Rule 72(1)(f)	Key performance indicators used to support expenditure to be incurred over the Current Access Arrangement Period.
Rule 72(1)(g)	The allowed rate of return for each regulatory year of the Current Access Arrangement Period, the assumptions on which the rate has been calculated, and a demonstration of how it has been calculated.
Rule 72(1)(h)	The method for dealing with corporate income tax, and a demonstration of how tax has been calculated.
Rule 72(1)(i)	Efficiency gains or losses carried over as a result of the operation of an incentive mechanism in the Earlier Access Arrangement Period.
Rule 72(1)(j)	The approach to the setting of tariffs, including: (i) the basis for the setting of Reference Tariffs, the method used to allocate costs, and a demonstration of the relationship between costs and tariffs; and (ii) a description of other pricing principles employed.
Rule 72(1)(k)	The rationale for the Reference Tariff Variation Mechanism.
Rule 72(1)(l)	The rationale for any incentive mechanism.
Rule 72(1)(m)	The total revenue to be derived from pipeline services for each regulatory year of the Current Access Arrangement Period.

2 BASIS ON WHICH FINANCIAL INFORMATION IS PROVIDED [Rule 73]

11. Financial information in this document is provided on both a nominal and real basis. All real financial information is expressed in constant prices at 30 June 2014.
12. Where necessary, to express financial values in dollar values of 30 June 2014, financial values prior to this date have been escalated at the rate of inflation as measured by the Consumer Price Index (All Groups, Weighted Average of Eight Capital Cities) as published by the Australian Bureau of Statistics (**CPI**). It should

be noted that the CPI was rebased by the Australian Bureau of Statistics in 2012. The inflations prior to 2012 had been retained for consistency with the index used in Earlier Access Arrangements. From 2012 onward the rebased index is used to calculate inflation.

13. Financial values after 30 June 2014 have been de-escalated using the forecast rate of inflation from the weighted average cost of capital parameter estimates shown in Table 18.
14. Table 2 shows the actual CPI and actual and forecast inflations.

Table 2 Actual 2010 to 2014 and forecast Jul 2014 to 2019 Consumer Price Index (All Groups, Weighted Average of Eight Capital Cities) and inflation rates.

	Jan to Jun 2010	2010/ 11	2011/12	2012/13	2013/14	Jul to Dec 2014	2015	2016	2017	2018	2019
June CPI (Pre-2012 Index)	172.10	178.30	180.40								
June CPI (Published March 2014)			100.40	102.80	105.90						
Inflation	1.53%	3.60%	1.18%	2.39%	3.02%	0.95%	1.90%	1.90%	1.90%	1.90%	1.90%

3 EXPENDITURE AND PIPELINE USAGE OVER THE EARLIER ACCESS ARRANGEMENT PERIOD [Rule 72(1)(a)]

3.1 Capital expenditure over Earlier Access Arrangement Period [Rule 72(1)(a)(i)]

15. Capital Expenditure, by asset class, during the Earlier Access Arrangement Period, is shown in Table 3.

Table 3 Capital expenditure by asset class 2010-2014 (\$ million, 30 June 2014)

Real \$ million at 30 June 2014	Jan to June 2010	2010/11	2011/12	2012/13	2013/14	Total
High Pressure Mains - steel & PE	8.85	3.59	2.91	20.68	4.75	40.78
Medium / Low Pressure Mains	5.16	10.34	11.27	22.72	16.88	66.36
Regulators	0.28	0.24	0.46	1.24	0.66	2.88
Secondary Gate Stations	1.86	0.19	0.24	0.00	0.00	2.30
Buildings	0.13	1.17	0.78	4.44	9.56	16.08
Meter and Services Pipes	9.54	20.82	18.58	20.91	30.10	99.95
Equipment & Vehicles	3.19	0.73	1.20	4.10	5.11	14.34
Information Technology	2.00	4.32	3.26	5.21	3.24	18.02
Total	31.01	41.42	38.71	79.29	70.29	260.73

3.2 Operating expenditure over the Earlier Access Arrangement Period [Rule 72(1)(a)(ii)]

16. Operating Expenditure, by category, during the Earlier Access Arrangement Period, is shown in Table 4.

Table 4 Operating expenditure by category 2010-2014 (\$ million, 30 June 2014)

Real \$ million at 30 June 2014	Jan to June 2010	2010/11	2011/12	2012/13	2013/14	Totals
Network	22.65	22.63	26.57	24.84	28.60	125.29
Marketing	-	-	-	-	-	-
Corporate	4.43	12.83	12.73	12.79	16.80	59.59
Information Technology	2.44	7.29	7.34	8.87	9.31	35.24
Regulatory Cost	1.26	2.56	2.27	2.19	2.44	10.72
Unaccounted for Gas	5.72	11.49	10.86	11.05	10.98	50.10
Ancillary Reference Services	0.41	0.64	0.60	0.82	0.67	3.14
Total	36.91	57.45	60.36	60.55	68.79	284.06

3.3 Pipeline usage over the Earlier Access Arrangement Period [Rule 72(1)(a)(iii)(B)]

Table 5 Pipeline Usage 2010 - 2014¹

	2010	2011	2012	2013	2014
Average Demand (TJ/day)	77.33	73.21	75.8	72.5	73.54
Minimum Demand (TJ/day)	41.37	44.85	33.96	38.19	39.02
Maximum Demand (TJ/day)	126.21	123.1	123.46	118.18	120.83

17. Customer numbers (including customers in receipt of prudent discounts), in total and by Tariff Class, are shown in Table 6.² GDS customers and Tariff Classes are explained in section 11.1 of this document.

Table 6 Customer numbers by Tariff Class 2010-2014 (average for year)

	Jan to June 2010	2010/11	2011/12	2012/13	2013/14
Tariff A1	75	75	73	76	75
Tariff A2	102	105	113	109	108
Tariff B1	1,225	1,259	1,299	1,335	1,365
Tariff B2	7,703	8,110	8,714	9,267	9,802
Tariff B3	601,247	614,525	629,901	642,711	657,673
Total	610,352	624,074	640,099	653,498	669,021

4 OPENING CAPITAL BASE FOR CURRENT ACCESS ARRANGEMENT PERIOD [Rule 72(1)(b)]

18. The Opening Capital Base for the Current Access Arrangement Period (the capital base at 1 July 2014) has been determined in accordance with the formula in Rule 77(2), which is as follows:

¹ Information supplied by ATCO as part of initial access arrangement proposal.

ATCO Gas Australia, *Access Arrangement Information: 1 July 2014 – 31 December 2019*, 3 April 2014, Figure 25, p. 57.

² While rule 72(1)(a)(iii)(B) of the NGR requires “customer numbers”, ATCO Gas Australia has taken GDS Delivery Points (i.e. customer connections) as representing customer numbers, even though an individual customer may take gas at more than one Delivery Point (i.e. have more than one connection). That is, the figures shown in the table for customer numbers are actually for customer connections (which may be more than actual customer numbers).

“77. Opening capital base

...

- 2) *If an access arrangement period follows immediately on the conclusion of a preceding access arrangement period, the opening capital base for the later access arrangement period is to be:*
- a) *the opening capital base as at the commencement of the earlier access arrangement period adjusted for any difference between estimated and actual capital expenditure included in that opening capital base. This adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual capital expenditure;*
- plus:*
- b) **conforming capital expenditure** *made, or to be made, during the earlier access arrangement period;*
- plus:*
- c) *any amounts to be added to the capital base under rule 82 [capital contributions by users to new capital expenditure], 84 [speculative capital expenditure account] or 86 [re-use of redundant assets];*
- less:*
- d) *depreciation [of the capital base] over the earlier access arrangement period (to be calculated in accordance with any relevant provisions of the access arrangement governing the calculation of depreciation for the purpose of establishing the opening capital base); and*
- e) *redundant assets identified during the course of the earlier access arrangement period; and*
- f) *the value of pipeline assets disposed of during the earlier access arrangement period.”*

Note: “conforming capital expenditure” means capital expenditure that complies with the new capital expenditure criteria stated in rule 79 of the NGR.

19. In the determination of the Opening Capital Base for the Current Access Arrangement Period, the following have been escalated, at the rate of inflation as measured by the Consumer Price Index and expressed in constant prices at 30 June 2014:
- the Opening Capital Base for the Earlier Access Arrangement Period;
 - Conforming Capital Expenditure made during the Earlier Access Arrangement Period; and
 - depreciation over the Earlier Access Arrangement Period.
20. During the Earlier Access Arrangement Period:
- no Capital Contributions made by a User have been added into the Opening Capital Base in accordance with Rule 82 of the NGR;
 - no amount has been withdrawn from a speculative capital expenditure account (as defined in rule 84(1)) which should be added to the Capital Base in accordance with Rule 84 of the NGR;
 - no redundant assets were identified or removed from the Capital Base;
 - no assets were disposed of from the Capital Base; and

- there has been no re-use of redundant assets requiring an amount to be added to the Capital Base in accordance with Rule 86 of the NGR.
21. For the purpose of determining the Opening Capital Base for the Current Access Arrangement Period, depreciation of the Conforming Capital Expenditure made, during the Earlier Access Arrangement Period, is the forecast of depreciation made for the purpose of determining the Total Revenue and Reference Tariffs for the Earlier Access Arrangement Period.
22. The Opening Capital Base for the Current Access Arrangement Period is \$1,005.40 million. The way in which the Opening Capital Base for the Current Access Arrangement Period has been determined is demonstrated in Table 7.

Table 7 Opening capital base for Current Access Arrangement Period (\$ million, 30 June 2014)

Real \$ million at 30 June 2014	Jan to June 2010	2010/11	2011/12	2012/13	2013/14
Opening Capital Base (AA3)	877.72	896.44	911.23	920.91	968.81
Plus: Conforming Capital Expenditure	31.01	41.42	38.71	79.29	70.29
Plus: Amounts (if any) to be Added Under NGR Rules 82, 84 or 86	-	-	-	-	-
Less: Depreciation	12.29	26.63	29.03	31.39	33.70
Less: Redundant Assets (AA3)	-	-	-	-	-
Less: Value of Pipeline Assets Disposed of (AA3)	-	-	-	-	-
Closing Capital Base (AA3)	896.44	911.23	920.91	968.81	1,005.40
Opening Capital Base at 1 July 2014					1,005.40

5 PROJECTED CAPITAL BASE [Rule 72(1)(c)]

23. The projected Capital Base for the Current Access Arrangement Period is, in accordance with Rule 78, to be determined using the following formula:
- “78. Projected capital base
- (a) the opening capital base;
- plus:
- (b) forecast conforming capital expenditure for the period;
- less:
- (c) forecast depreciation for the period; and
- (d) the forecast value of pipeline assets to be disposed of in the course of the period.”
24. No Pipeline assets of material value are expected to be disposed of during the Current Access Arrangement Period.

5.1 Forecast Conforming Capital Expenditure [Rule 72(1)(c)(i)]

25. Table 8 shows forecast Conforming Capital Expenditure during the Current Access Arrangement Period.

Table 8 Forecast Conforming Capital Expenditure (\$ million, 30 June 2014)

Real \$ million at 30 June 2014	Jul to Dec 2014	2015	2016	2017	2018	2019	Total Forecast AA4
High pressure mains - steel	0.58	5.49	15.29	1.77	1.07	2.15	26.34
High pressure mains - PE	1.19	1.15	-	-	0.07	0.75	3.15
Medium pressure mains	-	-	-	-	-	-	-
Medium/low pressure mains	12.49	27.52	26.99	25.38	25.46	24.90	142.74
Low pressure mains	-	-	-	-	-	-	-
Regulators	1.40	2.66	1.46	1.43	1.44	1.88	10.27
Secondary gate stations	0.01	0.00	0.55	7.95	3.94	5.85	18.29
Buildings	0.19	12.02	0.62	0.42	0.02	0.02	13.30
Meters and service pipes	16.44	30.96	30.64	31.42	32.01	31.94	173.42
Equipment and vehicles	0.12	1.60	1.39	1.23	0.97	0.97	6.27
Vehicles	1.65	2.53	0.76	1.33	4.37	4.27	14.91
Information technology including Telemetry	4.82	7.37	6.78	5.19	4.19	2.67	31.01
Full retail contestability	-	-	-	-	-	-	-
Land	-	4.85	0.55	0.35	-	-	5.75
Equity raising costs	-	-	-	-	0.32	0.74	1.06
Total	38.87	96.15	85.05	76.48	73.85	76.13	446.51

5.2 Forecast of depreciation [Rule 72(1)(c)(ii)]

26. Depreciation over the Current Access Arrangement Period is to be calculated in accordance with the current cost accounting (**CCA**) depreciation method, consistent with the Australian Energy Regulator's Post Tax Revenue Model method – where first, the real opening capital base in any year is divided by the remaining asset life to calculate the real depreciation for the regulatory year, second, indexation is applied to the real depreciation to convert it to nominal terms, and third, the nominal depreciation is adjusted for the resulting double count of inflation by subtracting the value ascribed to inflation from the opening regulatory asset base for that regulatory year. The regulatory depreciation is to be the sum of the Post Tax Revenue Model calculation of the:

- i. depreciation on the Opening Capital Base over the Current Access Arrangement Period;
- ii. depreciation of the forecast Capital Expenditure for the Current Access Arrangement Period (being the amount of forecast Capital Expenditure

- used for the purpose of determining Haulage Tariffs for the Current Access Arrangement Period); and
- iii. depreciation of any unanticipated Regulatory Capital Expenditure for the Current Access Arrangement Period (being depreciation calculated in accordance with Clause 3 of Annexure B of this Access Arrangement).
27. Depreciation for the Current Access Arrangement Period on Conforming Capital Expenditure for that period has been determined using the straight line method with the lives in each class of asset shown in Table 9.

Table 9 Asset lives for the derivation of forecast depreciation

Asset category	Economic Life (years)
High Pressure mains - steel	80
High Pressure mains - PE	60
Medium pressure mains	60
Medium/low pressure mains	60
Low pressure mains	60
Regulators	40
Secondary gate stations	40
Buildings	40
Meters and service pipes	25
Equipment and vehicles	10
Vehicles	10
Information technology	5
Full retail contestability	5

28. The forecast of depreciation for the Current Access Arrangement Period in Nominal \$ million is shown in Table 10.

Table 10 Forecast of depreciation (Nominal \$ million)

Nominal \$ million	Jul to Dec 2014	2015	2016	2017	2018	2019	Total Forecast AA4
High pressure mains - steel	1.51	3.08	3.21	3.48	3.57	3.65	18.51
High pressure mains - PE	-	0.02	0.04	0.04	0.04	0.04	0.19
Medium pressure mains	2.75	5.60	5.71	5.82	5.93	6.04	31.85
Medium/low pressure mains	3.27	6.87	7.48	8.11	8.72	9.36	43.81
Low pressure mains	0.66	1.34	1.36	1.39	1.42	1.44	7.61
Regulators	0.36	0.77	0.85	0.91	0.96	1.02	4.87
Secondary gate stations	0.11	0.23	0.24	0.26	0.48	0.60	1.91
Buildings	0.20	0.45	0.77	0.80	0.83	0.84	3.89
Meters and service pipes	6.18	13.28	14.83	16.42	18.10	19.86	88.66
Equipment and vehicles	0.71	1.47	1.66	1.61	1.77	1.91	9.13
Vehicles	-	0.34	0.88	1.06	1.37	2.36	6.00
Information technology including Telemetry	0.85	3.93	5.22	6.14	6.52	6.65	29.31
Full retail contestability	-	-	-	-	-	-	-
Land	-	-	-	-	-	-	-
Equity raising costs	-	-	-	-	-	0.01	0.01
Total	16.61	37.37	42.26	46.02	49.70	53.78	245.74

29. Table 11 shows the adjustment for the double count of inflation.

Table 11 Forecast of depreciation (Nominal \$ million)

Nominal \$ million	Jul to Dec 2014	2015	2016	2017	2018	2019	Total Forecast AA4
Regulatory Depreciation	7.02	17.66	21.00	23.47	26.04	29.09	124.28
Straight line CCA depreciation	16.61	37.37	42.26	46.02	49.70	53.78	245.74
Less: Inflationary Gain	(9.58)	(19.71)	(21.26)	(22.55)	(23.66)	(24.69)	(121.46)

5.3 Projected Capital Base [Rule 72(1)(c)]

30. The determination of the projected Capital Base for the Current Access Arrangement Period is set out in Table 12.

Table 12 Projected Capital Base for Current Access Arrangement Period (Nominal \$ million)

Nominal \$ million	Jul to Dec 2014	2015	2016	2017	2018	2019
Opening Capital Base (start of period)	1,005.40	1,037.63	1,118.87	1,187.02	1,245.25	1,299.59
Inflation	9.58	19.71	21.26	22.55	23.66	24.69
Opening Capital Base (end of period)	1,014.99	1,057.34	1,140.13	1,209.58	1,268.90	1,324.28
Plus: Conforming Capital Expenditure	39.24	98.91	89.15	81.69	80.38	84.44
Less: Depreciation (Straight line CCA)	16.61	37.37	42.26	46.02	49.70	53.78
Closing Capital Base	1,037.63	1,118.87	1,187.02	1,245.25	1,299.59	1,354.93

6 FORECAST DEMAND [Rule 72(1)(d)]

31. The forecasts of volumes of Gas to be delivered by Tariff Class, including volumes to be delivered to customers in receipt of prudent discounts, during the Current Access Arrangement Period, are detailed in Table 13.³

Table 13 Forecast volumes of Gas delivered (GJ)

	Jul to Dec 2014	2015	2016	2017	2018	2019
Tariff A1	5,860,661	11,572,769	11,720,093	11,883,212	12,105,157	12,350,313
Tariff A2	995,487	1,843,789	1,903,018	1,987,975	2,093,987	2,137,616
Tariff B1	898,739	1,669,707	1,702,977	1,749,145	1,802,173	1,858,092
Tariff B2	668,945	1,181,866	1,143,225	1,123,671	1,103,966	1,049,638
Tariff B3	5,538,726	9,538,366	9,469,679	9,472,604	9,579,771	9,724,814
Total	13,962,558	25,806,497	25,938,993	26,216,608	26,685,055	27,120,472

32. Forecast connections by Tariff Class (including customers in receipt of prudent discounts) are shown in Table 14.⁴

³ No forecast pipeline capacity is provided as it is not practicable for ATCO Gas Australia to provide one. As the GDS is a geographically dispersed system of non-contiguous gas distribution pipelines, operating at different pressures, the network does not have a defined capacity, and making forecasts of system capacity is not practicable (ATCO Gas Australia, *Appendix 2A: Specific requirements for access arrangement information*, 17 March 2014, p.1.).

⁴ ATCO Gas Australia treats GDS Delivery Points (i.e. customer connections) as representing customer numbers, even though an individual customer may take gas at more than one Delivery Point (i.e. have more than one connection). That is, the figures shown in the table for "customer numbers" are actually for customer connections (which may be more than actual customer numbers).

Table 14 Forecast connections by Tariff Class (Average for year)

	Jul to Dec 2014	2015	2016	2017	2018	2019
Tariff A1	73	73	74	74	74	74
Tariff A2	107	111	117	121	125	130
Tariff B1	1,401	1,438	1,489	1,541	1,595	1,650
Tariff B2	10,245	10,542	10,873	11,193	11,500	11,793
Tariff B3	670,569	683,974	701,896	716,977	729,592	741,199
Total	682,396	696,139	714,449	729,906	742,886	754,846

7 FORECAST OPERATING EXPENDITURE [Rule 72(1)(e)]

33. Forecast Operating Expenditure over the Current Access Arrangement Period is shown in Table 15.

Table 15 Forecast Operating Expenditure by category (\$ million, 30 June 2014)

Real \$ million at 30 June 2014	Jul to Dec 2014	2015	2016	2017	2018	2019	Total
Network Operating Expenditure	12.56	31.71	31.30	31.54	31.54	32.04	170.68
Corporate Operating Expenditure	10.21	17.46	17.37	17.52	18.62	18.74	99.93
IT Operating Expenditure	3.89	10.40	10.50	10.50	10.37	10.27	55.93
UAFG Operating Expenditure	3.98	7.15	7.17	7.25	7.32	7.38	40.24
Ancillary Service Operating Expenditure	0.19	0.57	0.58	0.60	0.61	0.62	3.17
Total	30.84	67.29	66.93	67.40	68.45	69.05	369.94

8 KEY PERFORMANCE INDICATORS [Rule 72(1)(f)]

34. The key performance indicators to be used by ATCO to support expenditure to be incurred over the Current Access Arrangement Period are shown in Table 16 and Table 17.

Table 16 Key Performance Indicators

Key Performance Indicator	Target
Customer Service	
Domestic customer connections within five days	>99.5 per cent
Attendance to broken mains and services within one hour	>99.7 per cent
Attendance to loss of gas supply within three hours	>99.7 per cent
Network Integrity	
Total public reported gas leaks per one kilometre main	<0.7
System Average Interruption Frequency Index (SAIFI)	<0.0044
Unaccounted for Gas (UAFG)	See Table 17 below
Expenditure	
Operating expenditure per kilometre of main	\$4,624
Operating expenditure per customer connection	\$92

Table 17 UAFG Target Rate

	July to Dec 2014	2015	2016	2017	2018	2019
UAFG Rate	2.52%	2.63%	2.62%	2.62%	2.60%	2.58%

9 RATE OF RETURN [Rule 72(1)(g)]

9.1 Rate of return

35. The input parameter values for the nominal after tax (vanilla) Weighted Average Cost of Capital (**WACC**) as the rate of return for the Current Access Arrangement Period are shown in Table 18.

Table 18 Rate of Return as at 2 April 2015

WACC as at 02 April 2015	2014/15	2015
Nominal Risk Free Rate	1.96%	1.96%
Real Risk Free Rate	0.06%	0.06%
Inflation Rate	1.90%	1.90%
Debt Proportion	60%	60%
Equity Proportion	40%	40%
Debt Risk Premium (10 year trailing average)	2.429%	2.502%
5 year IRS (effective yield)	2.431%	2.431%
Return on Debt; 5 year Interest Rate Swap Spread	0.467%	0.467%
Return on Debt; Debt Issuing Cost (0.125%) + Hedging (0.114%)	0.24%	0.24%
Return on Debt	5.099%	5.172%
Australian Market Risk Premium	7.6%	7.6%
Equity Beta	0.7	0.7
Corporate Tax Rate	30%	30%
Franking Credit (gamma)	40%	40%
Nominal After Tax Return on Equity	7.28%	7.28%
Nominal After Tax WACC	5.97%	6.02%
Real After Tax WACC	4.00%	4.04%

Source: Economic Regulation Authority, *Final Decision on the Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution System*, 10 September 2015, Table 94, p. 376.

36. The nominal after tax WACC rate of return for 2014-15 is 5.97 per cent and for 2015 is 6.02 per cent.

Annual Updating

37. The estimate of the nominal after tax WACC will be annually updated during the Access Arrangement period in order to account for the annual update to the debt risk premium component of the WACC. The first annual update of the WACC will apply as part of the tariff variation for the 2016 calendar year with subsequent annual updates in the 2017, 2018 and 2019 calendar years. The annual update will be determined based on the formulas set out in detail in Appendix 8 of the final decision on the proposed revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution System, published on 10 September 2015 (the **Final Decision**).⁵ The resulting annual adjustment to the rate of return will be incorporated in the Annual Tariff Variation for the years 2016, 2017, 2018 and 2019.
38. The process for implementing the annual update is as follows:

⁵ Economic Regulation Authority, *Final Decision on the Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution System*, 10 September 2015, p.685.

- For each annual update for 2016, 2017, 2018 and 2019, the Authority will estimate the updated DRP following the relevant annual averaging period, recalculate the rate of return, and then notify ATCO of the outcomes as soon as practicable.. This will allow ATCO to check the rate of return estimate, prior to its incorporation in the proposed annual tariff variation.
- Following that notification, ATCO is required to respond on any issues as soon as practicable, in order to allow the updated DRP and rate of return estimates to be finalised prior to submission by ATCO of its proposed annual tariff variation.
- In the event that there is a disagreement on the DRP annual update estimate, the Authority will work with ATCO to ensure that any misapplication of the automatic formulas in Appendix 8 of the Final Decision (as amended at 1 September 2015) are corrected in a timely manner.
- The updated annual rate of return based on the correct application of the DRP automatic update formulas is to be utilised for each annual tariff variation.

Financial to Calendar Year

39. The beginning of this Access Arrangement involves a transition from Annual Tariff Variations being made on a financial year basis to a calendar year basis. The WACC is therefore calculated for the 2014/15 financial year for application in the period 1 July 2014 to 31 December 2014 and also calculated for the 2015 calendar year for application in that year.

Nominal After Tax (Vanilla) WACC

40. The nominal vanilla WACC is calculated using the conventional form:

$$WACC = \frac{D}{V} R_D + \frac{E}{V} R_E$$

where

$\frac{D}{V}$ is the benchmark gearing level or debt D as a proportion of total asset value V ;

R_D is the cost of debt financing;

$\frac{E}{V}$ is the proportion of total asset value funded by shareholders equity

calculated as $\left(1 - \frac{D}{V}\right)$; and

R_E is the return on shareholders' equity.

41. Each of the parameters are calculated as follows.

9.1.1 Gearing

42. Gearing of 60 per cent debt and 40 per cent equity will be applied for the purpose of determining the WACC. This parameter is fixed for the duration of the Access Arrangement.

9.1.2 Return on Debt

43. The return on debt is calculated as follows:

$$\begin{aligned} \text{Cost of Debt} &= \text{Nominal Risk Free Rate} + 5 \text{ year IRS spread} \\ &+ \text{Debt Risk Premium} \\ &+ \text{Issuing costs} + \text{Hedging costs} \end{aligned}$$

Nominal risk free rate

44. The nominal risk free rate is estimated based on 20 trading days of Commonwealth Government Securities (**CGS**) yield observations interpolating a tenor of 5 years for each day. The 5 year interest rate swap (**IRS**) rate is based on 20 trading days of rate observations. The CGS interpolations and IRS spread observations are averaged and annualised to account for the semi-annual basis on which bond coupons are paid. The 20 day averaging period ends on and includes 2 April 2015. Both of these parameters are fixed for the duration of the Access Arrangement.
45. As at 2 April 2015 the nominal risk-free rate was 1.96 per cent and 5 year swap rate was 2.431 per cent. The 5 year IRS spread is calculated as the difference between these figures.

Debt Risk Premium

46. This is the only parameter in the WACC that is annually updated and thus drives the year to year change in the annual update of the rate of return.

Trailing Average

47. The debt risk premium (**DRP**) is estimated using a simple 10 year trailing average, consisting of a **DRP** for the 'current' year (that is, the year in which the WACC is being determined) and a **DRP** for each of the 9 prior years. The **DRP** is defined as the spread of the BBB band cost of debt at a 10 year tenor in excess of the 10 year IRS swap rate.⁶

Reserve Bank of Australia versus Authority Estimates

48. The **DRP** estimate for the 'current' year is produced using the Authority's revised bond yield approach. At the outset of the Access Arrangement, the **DRP** estimates for the 9 previous years are based on Reserve Bank of Australia (**RBA**) 'spread to swap' estimates for the BBB band which have been linearly extrapolated to an effective tenor of 10 years. With each subsequent annual update the Authority's

⁶ Previously the Authority defined the **DRP** as the spread between the cost of debt and *risk free rate of return* as opposed to the *IRS rate*.

latest 'current' DRP estimate based on the revised bond yield approach will phase out the earliest years' RBA based DRP estimate in the trailing average. After 10 years all 10 DRP estimates in the trailing average will be those based on the revised bond yield approach. Further details on the statistical methods can be found from in the Rate of Return section (see pages 321 to 376) and Appendix 8 in the Final Decision.⁷

Automatic formula for the annual update of the DRP

49. The 'current year' WACC to be included in each annual update will be calculated using the automatic formulas set out in Appendix 8 of the Final Decision. The averaging period for each annual update is based on a 20 business day period between 1 July and 31 October in each relevant year. The exact 20 days averaging period for each relevant year is nominated by the service provider in advance and is kept confidential until the end of the access arrangement period.

Issuing costs

50. The estimate of debt raising costs is 0.125 per cent per annum. The debt raising cost estimate covers:⁸
- gross underwriting fee: including management fees, selling fees, arrangement fees and the cost of an underwriter for the debt;
 - legal and road show fee: this includes fees for legal documentation and fees involved in creating and marketing a prospectus;
 - company credit rating fee: a credit rating is generally required for the issue of a debt raising instruments, a company is charged annually by the credit rating agency for the services of providing a credit rating;
 - issue credit rating fee: a separate credit rating is obtained for each debt issue;
 - registry fee: the maintenance of the bond register; and
 - paying fee: payment of a coupon and principal to the security holder on behalf of the issuer.

Hedging costs

51. An amount of 11.4 bppa is allocated to meet the costs of entering into interest rate swap arrangements for the purpose of hedging changes in the 5 year IRS and the underlying risk free rate.⁹

9.1.3 Return on equity

52. The return on equity is estimated at the start of the access arrangement and is based on the following models:
- The Sharpe Lintner Capital Asset Pricing Model (**CAPM**) is utilised to estimate the return on equity.

⁷ Economic Regulation Authority, *Final Decision on the Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution System*, 10 September 2015, pp.321-376.

⁸ Economic Regulation Authority, *Explanatory Statement for the Rate of Return Guidelines*, 16 December 2013, p. 199.

⁹ Chairmont Consulting, *ERA Hedging Costs in the Cost of Debt*, 13 May 2015.

- The Black CAPM is relevant for the purpose of estimating a return on equity. However, given it is not reliable and practical to estimate a robust return on equity using this model, the model is not used directly, but only to inform the point estimate of the equity beta from within its range for input to the Sharpe Lintner CAPM.
 - The DGM is a relevant model for informing the market return on equity and also the forward looking market risk premium (**MRP**).
 - Other information such as historical data on equity risk premium; surveys of market risk and other equity analysts' estimates are also relevant for the purpose of estimating the MRP and the market return on equity. This other material is used for conditioning the estimates used for the CAPM or as a cross check for the return on equity.
53. The Authority considers the Sharpe Lintner CAPM to be the only relevant model for directly estimating the return on equity for an efficient benchmark entity in the Australian context. The return on equity is estimated using the Sharpe Lintner CAPM in the following form:

$$E_t(R_i) = R_{F,t} + \beta_i \times MRP_t$$

where

$E_t(R_i)$ is the return on asset i ;

$R_{F,t}$ is the risk free rate of return;

β_i is equity beta; and

MRP_t is the Authority's estimate of the forward looking market risk premium for the regulatory period.

Risk free rate of return

54. The nominal risk free rate is estimated based on 20 trading days of Commonwealth Government Securities (**CGS**) yield observations interpolating a tenor of 5 years for each day. The CGS interpolations are averaged and annualised to account for the semi-annual basis on which bond coupons are paid. The 20 day averaging period ends on and includes 2 April 2015.
55. As at 2 April 2015 the nominal risk-free rate was 1.96 per cent.

Market Risk Premium

56. The various models and information outlined in paragraph 52 are used to estimate ranges and inform a point estimate for the MRP. Further details on the methods and decision process can be found in the Rate of Return section in the Final Decision (see pages 220 to 291).¹⁰

¹⁰ Economic Regulation Authority, *Final Decision on the Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution System*, 10 September 2015, pp.230-291.

Equity Beta

57. The equity beta is estimated as being 0.7. Further details on the methods and decision process can be found in the Rate of Return section in the Final Decision (see pages 220 to 291).¹¹

9.2 Inflation

58. This parameter is not used in the calculation of the nominal after tax WACC, but is used as an input in the nominal post-tax financial model used for tariff determination. Inflation is implied through using the conventional Fisher equation to discount the real risk free rate out of the nominal risk free rate outlined in paragraph 44. The real risk free rate is calculated using Treasury indexed bond yield observations and the same method outlined for the nominal risk free rate. The Treasury indexed bonds pay a quarterly coupon and so are annualised accordingly. This parameter is fixed for the duration of the Access Arrangement.

9.3 Gamma

59. This parameter is not used explicitly in the calculation of the nominal after tax WACC, but is used as an input to modify historical equity returns data which in turn are used in determining the MRP. It is also an input in the nominal post-tax financial model used for the tariff determination. Gamma is estimated as being 0.4 and is fixed for the duration of the Access Arrangement. Further details on the methods and decision process can be found in the Rate of Return section in the Final Decision (see pages 384 to 416).¹²

10 ESTIMATED COST OF INCOME TAX [Rule 72(1)(h)]

10.1 Calculating the Cost of Tax

60. Rule 87A of the NGR elaborates on how to calculate the estimated cost of corporate income tax:¹³

The estimated cost of corporate income tax of a service provider for each regulatory year of an *access arrangement period* (ETC_t) is to be estimated in accordance with the following formula:

$$ETC_t = (ETI_t \times r_t) (1 - \gamma)$$

Where

ETI_t is an estimate of the taxable income for that regulatory year that would be earned by a benchmark efficient entity as a result of the provision of reference services if such

¹¹ Ibid, pp. 220-291.

¹² Economic Regulation Authority, *Final Decision on the Proposed Revisions to the Access Arrangement for the Mid-West and South-West Gas Distribution System*, 10 September 2015, pp.384-416.

¹³ NGR 87A.

an entity, rather than the service provider, operated the business of the service provider;

r_t is the expected statutory income tax rate for that regulatory year as determined by the AER; and

γ is the value of imputation credits.

61. Taxable income was determined as assessable income less tax deductible costs recognised by the Australian Tax Office (**ATO**) as follows

	Smoothed tariff revenue
plus	Revenue from prudent discounts.
plus	Ancillary service revenue.
minus	Approved forecast operating expenditure.
minus	Depreciation of the tax asset base (TAB), which excludes capital contributions, and customer commercial meter sets. Tax depreciation is applied on a straight-line basis.
minus	Debt servicing costs, calculated by multiplying the debt portion of the opening regulatory asset base (RAB) by the debt to equity ratio (assumed at 60 per cent) and the nominal hybrid trailing average cost of debt (based on the trailing average estimate of the debt risk margin, annually updated, plus the 'on the day' nominal risk free rate).
equals	Estimated taxable income.

62. The expected statutory income tax rate is 30 per cent.
63. The estimated value of imputation credits is 40 per cent (0.40).

10.2 Setting the Tax Asset Value

64. The opening Tax Asset Base was \$467.18 million (\$ nominal) as at 1 July 2014.

10.3 Value of Imputation Credits (Gamma)

65. Rule 87A of the NGR requires that the estimated cost of corporate income tax be reduced by an amount which represents the value of the imputation or franking credit available to investors.
66. The estimated value of imputation credits is 40 per cent (0.40), as set out in the Final Decision.
67. The estimate of 0.4 is based on the following, with estimates given most weight ranked first:
- the equity share ownership approach gives an estimate of gamma of 0.4;
 - the taxation statistics approach gives an estimate of gamma of 0.3;
 - the dividend drop off (**DDO**) estimation approach gives a range for the estimate of gamma of 0.3 to 0.5.
68. The resulting range for the Authority's estimate of gamma is 0.3 to 0.5.

69. Consistent with its approach set out in the Draft Decision, the Authority places most reliance on the equity share ownership approach. It suggests a point estimate for gamma of 0.4.
70. Taxation statistics suggest that the estimate of gamma could be lower, at 0.3. However, the Authority does not place much weight on the estimate, or on its ability to inform a point estimate of the utilisation rate, given concerns about the robustness of the taxation data used for estimating the utilisation rate.
71. Similarly, the DDO estimate suggests that the estimate of gamma could be higher or lower than 0.4, although the mid-point of the estimate range supports an estimate of 0.4. The Authority gives only limited weight to the estimated range, and to the point estimate, given its concerns with regard to the sensitivity of the estimates to the dividend sample, parametric form of the regression equation and regression technique used.
72. Based on the foregoing, the Authority adopts a point estimate of the value of imputation credits of 0.4. Therefore, the Authority has not accepted the value of 0.25 put forward by ATCO.

10.4 Benchmark Cost of Tax

73. The cost of tax calculation, applying the approach and parameter set out in this section, is shown in Table 19.

Table 19 Estimated Cost of Corporate Income Tax Net of Imputation Credits

Nominal \$	July to Dec 2015 2014	2016	2017	2018	2019	Total	
Revenue							
Tariff Revenue (smoothed)	98.74	179.48	165.97	156.78	149.11	142.06	892.14
Prudent Discount Revenue	0.68	1.34	0.83	0.55	0.60	0.66	4.65
Ancillary Service Revenue	0.48	0.70	0.61	0.64	0.66	0.69	3.78
Capital Contributions	-	-	-	-	-	-	-
Revenues from additional user charges	-	-	-	-	-	-	-
Total - Revenue	99.90	181.52	167.41	157.96	150.37	143.41	900.57
Expenses							
Operating expenditure	(31.13)	(69.22)	(70.16)	(71.99)	(74.51)	(76.58)	(393.59)
Depreciation of the TAB	(23.02)	(48.78)	(54.25)	(54.96)	(54.39)	(57.72)	(293.11)
Debt servicing costs	(15.31)	(32.34)	(34.81)	(36.91)	(38.71)	(40.38)	(198.47)
Total - Expenses	(69.46)	(150.34)	(159.21)	(163.87)	(167.60)	(174.69)	(885.17)
Tax							
Net Income	30.44	31.18	8.20	(5.90)	(17.23)	(31.28)	
Tax loss carried forward	-	-	-	(5.90)	(23.13)	(54.41)	
Taxable income	30.44	31.18	8.20	(5.90)	(23.13)	(54.41)	
Income tax expense (30%)	9.13	9.35	2.46	-	-	-	20.95
Value of Imputation Credits	(3.65)	(3.74)	(0.98)	-	-	-	(8.38)
Cost of Tax Net of Imputation Credits	5.48	5.61	1.48	-	-	-	12.57

11 APPROACH TO SETTING REFERENCE TARIFFS [Rule 72(1)(j)]

11.1 Tariff Classes

74. Rule 94 of the NGR outlines the requirements in relation to Tariff Classes and the revenue to be recovered from each Tariff Class. It also outlines the requirements in relation to charging parameters.
75. A Reference Service is provided to a User at each Delivery Point on the GDS. ATCO Gas Australia has, therefore, taken GDS Delivery Points as representing customers. By treating Delivery Points as customers, each customer is a customer in relation to only one Reference Service because only one Reference Service is provided at each Delivery Point.
76. About 683,000 customers are supplied with Gas from the GDS. ATCO Gas Australia offers Reference Services that are Haulage Services, Reference Services that are Ancillary Services and Non-Reference Services.
77. The Haulage Services are divided into five services with associated Tariff Classes. These are Reference Services A1, A2, B1, B2 and B3.
78. Service A1: at the time of application the user reasonably anticipates taking delivery of Gas at a Delivery Point on the GDS of 35 terajoules (**TJ**) or more of Gas per Year and requests a Contracted Peak Rate of 10 gigajoules (**GJ**) or more of Gas per hour. Also the user requests User Specific Delivery Facilities be installed.
79. Service A2: at the time of application the user reasonably anticipates taking delivery of Gas at a Delivery Point on the GDS of between 10 and 35 TJ per Year; or requests a Contracted Peak Rate of less than 10 GJ/hour; or an Above 10 TJ Determination has been, or is likely to be made under the Retail Market Rules. Also, the user requests User Specific Delivery Facilities be installed.
80. Service B1: at the time of application the user reasonably anticipates taking delivery of Gas at a Delivery Point on the GDS of less than 10 TJ per Year or requests a Contracted Peak Rate of less than 10 GJ/hour. Also, the user requests User Specific Delivery Facilities or takes delivery of Gas at a Delivery Point on the Medium Pressure/Low Pressure System using Standard Delivery Facilities, which include a Standard 18m³/h Meter or a standard Meter with a badged capacity of more than 18m³/h.
81. Service B2: the user requests a delivery of Gas at a Delivery Point on the Medium Pressure/Low Pressure System using Standard Delivery Facilities, which include a Standard 12m³/h Meter or a standard Meter with a badged capacity of less than 18m³/h.
82. Service B3: the user requests a delivery of Gas at a Delivery Point on the Medium Pressure/Low Pressure System using Standard Delivery Facilities, which include a Standard 8m³/h Meter, a Standard 10m³/h Meter, or a standard Meter with a badged capacity of less than 12m³/h.

11.2 Charging parameters for each Tariff Class

83. The Reference Tariff payable by the customers in each Tariff Class is to be determined in accordance with Rule 94(4). Each of the Reference Services provided using the GDS can be divided into a number of elements, and a charging parameter can be assigned to each of these elements. The Reference Services offered by ATCO Gas Australia, and the Tariff Classes, Reference Tariffs, service elements

and charging parameters associated with each of these Reference Services, are set out in Table 20.

Table 20 GDS Reference Services, Tariff Classes, Reference Tariffs, service elements and charging parameters

Reference Service Tariff Class Reference Tariff	Service element	Charging parameter
A1	Use of distribution system capacity	Standing Charge
	Haulage	Demand Charge
	Haulage	Usage Charge
	Provision of Meter, Service Pipe, User Specific Pressure Regulator, ancillary pipes and equipment (if any) and Telemetry	User Specific Charge
A2	User Specific Charge	
	Use of distribution system capacity	Standing Charge
	Haulage	Usage Charge
B1	Provision of Meter, Service Pipe, User Specific Pressure Regulator, ancillary pipes and equipment (if any) and Telemetry	User Specific Charge
	Use of distribution system capacity	Standing Charge
	Haulage	Usage Charge
B2	Provision of Meter, Service Pipe, User Specific Pressure Regulator, and ancillary pipes and equipment (if any)	User Specific Charge
	Use of distribution system capacity	Standing Charge
B3	Haulage	Usage Charge
	Use of distribution system capacity	Standing Charge

84. The structure of the Reference Tariff for each Reference Service applying in the Earlier Access Arrangement Period has been retained. The Reference Tariff for each Tariff Class has a standing Charge and a usage Charge. In each case, the usage charge has two blocks. In addition, Tariffs A1, A2 and B1 has a further charging parameter – a User specific Charge – which varies between customers in accordance with individual requirements for User Specific Delivery Facilities. Reference tariff A1 has a third charging parameter – a demand Charge – which is related to the distance from the nearest transmission pipeline, and is designed to avoid inefficient bypass of the GDS.

85. Table 21 shows the reference tariffs for the current access arrangement period.

Table 21 GDS Reference Tariffs (\$ 30 June 2014)

Reference Tariff	Charging parameter	Units	1-Oct-15	1-Jan-16	1-Jan-17	1-Jan-18	1-Jan-19
A1	Standing Charge	\$/year	44,297.51	39,887.27	35,916.11	32,340.31	29,120.52
	Demand Charge						
	First 10 km	\$/GJ km	186.70	168.11	151.37	136.30	122.73
	Distance > 10 km	\$/GJ km	98.27	88.48	79.67	71.74	64.60
	Usage Charge						
	First 10 km	\$/GJ km	0.03961	0.03567	0.03212	0.02892	0.02604
	Distance > 10 km	\$/GJ km	0.01979	0.01782	0.01604	0.01445	0.01301
A2	Standing Charge	\$/year	24,525.45	22,083.71	19,885.06	17,905.31	16,122.67
	First 10TJ	\$/GJ	2.37	2.13	1.92	1.73	1.56
	Volume > 10TJ	\$/GJ	1.27	1.14	1.03	0.93	0.83
B1	Standing Charge	\$/year	1,235.46	1,112.46	1,001.70	901.97	812.17
	First 5TJ	\$/GJ	4.72	4.25	3.83	3.45	3.10
	Volume > 5TJ	\$/GJ	4.05	3.64	3.28	2.95	2.66
B2	Standing Charge	\$/year	309.58	278.76	251.01	226.02	203.52
	First 100GJ	\$/GJ	7.88	7.09	6.39	5.75	5.18
	Volume > 100GJ	\$/GJ	4.69	4.22	3.80	3.42	3.08
B3	Standing Charge	\$/year	75.81	78.10	87.20	96.31	105.41
	First 2 GJ	\$/GJ	-	-	-	-	-
	Volume > 2 < 10 GJ	\$/GJ	14.98	12.52	9.61	6.91	4.38
	Volume > 10GJ	\$/GJ	6.47	5.40	4.15	2.98	1.89

12 REFERENCE TARIFF VARIATION MECHANISM [Rule 72(1)(k)]

86. Annexure B of the Access Arrangement provides for variation of the Reference Tariffs:
- in accordance with a formula; and
 - as a result of a cost pass through for a defined event.
87. Annexure B is available on the Authority's website, www.erawa.com.au.

12.1 Reference Tariff variation in accordance with formula

88. The Reference Tariffs set out in the preceding section of the Access Arrangement Information are all real, 30 June 2014 dollar values.
89. The Access Arrangement for the GDS therefore includes a Reference Haulage Tariff Variation Mechanism which varies the Tariffs set out in Table 21 above for the effects of inflation from 30 June 2014 to each of the dates on which varied Tariffs are to come into effect on 1 October 2015, 1 January 2016, 1 January 2017, 1 January 2018 and 1 January 2019.
90. All Haulage Tariffs commencing 1 January of the Variation Year are to be recalculated after the annual update of the trailing average debt risk premium. All Haulage Tariffs commencing 1 January of the Variation Year are to include approved Cost Pass Through Events.

12.2 Reference Tariff variation as a result of cost pass through

91. The Reference Tariff Variation Mechanism includes a scheme of Tariff variation for certain defined cost pass through events. Specific events which give rise to costs which can be recovered through Tariff variation for cost pass through are:
- ATCO Gas Australia incurs HHV Costs that constitute Conforming Capital Expenditure or Conforming Operating Expenditure;
 - ATCO Gas Australia incurs Physical Gate Point Costs that constitute Conforming Capital Expenditure or Conforming Operating Expenditure;
 - ATCO Gas Australia incurs Conforming Capital Expenditure or Conforming Operating Expenditure as a result of a Change in Law or Tax Change;
 - ATCO Gas Australia incurs Conforming Capital Expenditure or Conforming Operating Expenditure as a direct result of any Law that imposes a fee or Tax on greenhouse gas emissions or concentrations; and for avoidance of doubt, this expenditure includes only direct capital or direct operating expenditure associated with preparation for, compliance with the Laws which implement, and the participation in, the Emissions Trading Scheme; and liability only for direct capital or direct operating expenditure transferred to ATCO Gas Australia from another entity as a direct result of acting in accordance with the Emissions Trading Scheme.
 - ATCO Gas Australia incurs Conforming Capital Expenditure or Conforming Operating Expenditure as a result of addressing an "Intermediate" security of supply risk following an assessment in accordance with the required steps

prescribed in Table C4 of AS 4645 for an 'intermediate' ranked risk. This expenditure can only be passed through for the following areas of the network identified by ATCO in its Response to the Draft Decision: Northern Network, Peel, Hillary's, Canning Vale, Fremantle and Lathlain.

13 TOTAL REVENUE [Rule 72(1)(m)]

92. Total Revenue has been determined using the “building block approach” in accordance with Rule 76, which states as follows

“Total revenue

Total revenue is to be determined for each regulatory year of the access arrangement period using the building block approach in which the building blocks are:

- a) a return on the projected capital base for the year (See Divisions 4 and 5); and*
 - b) depreciation on the projected capital base for the year (See Division 6); and*
 - c) the estimated cost of corporate income tax for the year (see Division 5A); and*
 - d) increments or decrements for the year resulting from the operation of an incentive mechanism to encourage gains in efficiency (See Division 9); and*
 - e) a forecast of operating expenditure for the year (See Division 7).”*
93. The building blocks of Total Revenue in each regulatory year of the Current Access Arrangement Period, and the Total Revenue in each year, are shown in Table 22.

Table 22 Total revenue (Nominal \$ million) Building Blocks

Nominal \$ Million	Jun to Dec 2014	2015	2016	2017	2018	2019	Total
Regulatory Operating Expenditure	31.26	69.39	70.31	72.12	74.61	76.66	394.35
<i>Operating Expenditure</i>	31.13	69.22	70.16	71.99	74.51	76.58	393.59
<i>Return on Working Capital</i>	0.13	0.18	0.15	0.13	0.11	0.07	0.77
Return on Capital Base	29.83	62.42	67.30	71.40	74.90	78.17	384.03
Regulatory Depreciation	7.02	17.66	21.00	23.47	26.04	29.09	124.28
<i>Depreciation</i>	16.61	37.37	42.26	46.02	49.70	53.78	245.74
<i>Inflationary Gain</i>	(9.58)	(19.71)	(21.26)	(22.55)	(23.66)	(24.69)	(121.46)
Regulatory Corporate Income Tax	5.48	5.61	1.48	-	-	-	12.57
<i>Corporate Income Tax</i>	9.13	9.35	2.46	-	-	-	20.95
<i>Imputation Credits</i>	(3.65)	(3.74)	(0.98)	-	-	-	(8.38)
Authority Approved Total Revenue	73.59	155.08	160.08	167.00	175.56	183.92	915.22

13.1 Return on Working Capital

94. The NGL(WA) and NGR do not make specific reference to the cost of working capital used by a service provider. However rule 42(1)(b) of the NGR states that access arrangement information for an access arrangement is information that is reasonably necessary for users and prospective users to understand the basis and derivation of the various elements of the access arrangement.
95. Table 23 shows the calculation of the return on working capital in nominal terms.

Table 23 Return on Working Capital (Nominal \$ million)

Nominal \$ million	July to Dec 2014	2015	2016	2017	2018	2019
Tariff Revenue	99.90	181.52	167.41	157.96	150.37	143.41
Expenses						
Forecast Capital Expenditure	31.13	69.22	70.16	71.99	74.51	76.58
Forecast Operating Expenditure	39.24	98.91	89.15	81.69	80.38	84.44
Total Expenses	70.37	168.12	159.31	153.68	154.89	161.02
Working Capital Requirement						
Receivables (18 days)	9.77	8.95	8.23	7.79	7.42	7.07
Payables (15 days)	(5.74)	(6.91)	(6.53)	(6.32)	(6.37)	(6.62)
Inventory (0.89% of capital expenditure)	0.35	0.88	0.79	0.73	0.72	0.75
Working Capital Requirement	4.39	2.92	2.50	2.20	1.77	1.21
Return on Working Capital at WACC	0.13	0.18	0.15	0.13	0.11	0.07

13.2 Allocation of the Total Revenue to Reference Services

96. Rule 93 governs the allocation of the Total Revenue to Reference Services. The Total Revenue is to be allocated between reference and other services in the ratio in which costs are allocated between reference and other services (Rule 93(1)).
97. ATCO Gas Australia does not provide services other than Reference Services using the GDS, and all Total Revenue during the Current Access Arrangement Period has been attributed to the provision of the Reference Services, being the Haulage Services and Ancillary Services. .

13.3 Ancillary Services

98. The following (as defined in the Access Arrangement) are offered as Ancillary Services:
- Deregistering a Delivery Point, which in outline means: a Delivery Point is permanently deregistered by removing the Standard Delivery Facilities to the extent ATCO considers necessary; permanently removing the Delivery Point in accordance with the Retail Market Rules; and removing the Delivery Point from the Delivery Point Register. This service is available for A1, A2, B1, B2 and B3 customers.
 - Applying a Meter Lock, which in outline means: a lock is applied to the valve that comprises part of the Standard Delivery Facilities to prevent Gas from being received at the relevant Delivery Point. This service is available for B2 and B3 customers.
 - Removing a Meter Lock, which in outline means: a lock that was applied to a valve comprising part of the Standard Delivery Facilities to prevent Gas from

being received at the relevant Delivery Point is removed. This service is available for B2 and B3 customers.

- Disconnecting a Delivery Point, which in outline means: physically disconnecting a Delivery Point to prevent Gas from being delivered to the Delivery Point. This service is available for B2 and B3 customers.
- Reconnecting a Delivery Point, which in outline means: physically reconnecting a Delivery Point to allow Gas to be delivered to the Delivery Point. This service is available for B2 and B3 customers.

13.4 Prudent discounts

99. Rule 96(1) allows a Service Provider to provide, in certain circumstances, a Reference Service to a particular User or class of Users at a discounted Reference Tariff, and to recover the cost of providing the discount from the provision of reference or other services in one or more future Access Arrangement Periods.
100. The Service Provider may only recover the cost of providing the discount if the discount is approved by the Authority. Before approving a discount – a “prudent discount” – the Authority must be satisfied that:
- the discount is necessary to respond to competition from other providers of Pipeline Services or from suppliers of energy from sources other than Gas, or is necessary to maintain efficient use of a Pipeline; and
 - provision of the discount is likely to lead to Reference Tariffs lower than would otherwise have been the case.
101. During the First Access Arrangement Period, ATCO Gas Australia offered discounts to certain Users of the GDS but received no compensation for foregone revenue. The discounts were approved by the Authority for the Earlier Access Arrangement Period because the Authority was satisfied that the discounts were necessary to respond to competition, and that their provision would lead to lower Reference Tariffs. The cost of providing these prudent discounts during the Earlier Access Arrangement Period was recovered via the Reference Tariffs set for that period.
102. ATCO Gas Australia is continuing to provide prudent discounts, and will recover the cost of their provision through the revised Reference Tariffs for the Current Access Arrangement Period. The revenue expected to be received from Users in respect of Reference Services provided a prudent discounts is shown in Table 24.

Table 24 Revenue from Reference Services provided at prudent discounted Reference Tariffs (\$million, 30 June 2014)

	Jul to Dec 2014	2015	2016	2017	2018	2019	Total
Revenue	0.670	1.305	0.791	0.513	0.552	0.593	4.423