Access Arrangement Information

Envestra's Queensland Gas Distribution Network

1 July 2011 – 30 June 2016

June 2011

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1. INTRODUCTION

1.1 Purpose of this Document

This document is the Access Arrangement Information (AAI) in relation to the Access Arrangement (AA) for the Envestra Limited (ABN 19 078 551 685) Queensland gas distribution network (the Network) for the period 1 July 2011 to 30 June 2016 (AA period).

The purpose of this document is to set out such information as is necessary to enable users and prospective users to understand the derivation of the elements of the AA for the AA period.

1.2 The Network

The main centres served by the Network are Brisbane (north of Brisbane River), Ipswich, Rockhampton and Gladstone. Maps outlining the areas covered by the Network are available from Envestra's website: www.envestra.com.au.

Table 1.1 below describes the composition of the Network by location with respect to length of mains. As indicated below, the assets used to service metropolitan Brisbane constitute the major part of the Network.

Table 1.1: Network Composition by Location as at 30 June 2010

Location	Km	%
Brisbane	1,812	76%
Ipswich	278	12%
Rockhampton	229	10%
Gladstone	56	2%
Total	**2,375**	**100%**

The Network is characterised by four pressure tiers - low, medium, high and transmission. It should be noted that the term 'transmission' in this context refers to distribution mains operating in the pressure range of 1,050 kPa to 1,750 kPa.

1.3 Interpretation

Terms used in this AAI have the same meaning as they have in the AA (see clause 2 of the AA).

In this document:

- Numerical values in tables may not tally due to arithmetic rounding
- A reference to opex is a reference to operating expenditure, and a reference to capex is a reference to capital expenditure

- A reference to the earlier AA period is a reference to the access arrangement period from 1 July 2006 to 30 June 2011.

In the AAI, unless the context otherwise requires, where a word or meaning is capitalised it has:

- the meaning given to that word or phrase in the National Gas Rules (NGR); or
- the meaning given to that word or phrase in the glossary contained in the AA.

2. PIPELINE SERVICES

2.1 Haulage Reference Services

The Haulage Reference Services for the AA period are:

- Demand Haulage Reference Service – this service provides for the forward haulage of Gas to Delivery Points (DPs) with an annual consumption that exceeds 10TJ per year;
- Commercial Haulage Reference Service – this service applies to all DPs that are not Demand DPs or Domestic DPs; and
- Domestic Haulage Reference Service – this service provides for the haulage of Gas to DPs where Gas is used typically for domestic purposes.

The Volume Haulage Service that applied in the earlier AA period has been divided into a Domestic and Commercial Haulage Service, thereby mirroring the arrangement in place in South Australia.

Refer to chapter 2 of the AER's final decision for further information.

2.2 Ancillary Reference Services

The Ancillary Reference Services for the AA period are:

(a) Special Meter Reading – a meter reading for a DP and provision of the associated meter reading data, that is in addition to the scheduled meter readings that form part of the Haulage Reference;

(b) Disconnection – installing locks or plugs at the Metering Installation of a Domestic DP in order to prevent the withdrawal of Gas at the DP;

(c) Reconnection – restoring the ability to withdraw Gas at a Domestic DP, following previous Disconnection, i.e. the removal of any locks or plugs used to isolate supply, performance of a safety check and the lighting of appliances where necessary.

2.3 Non-Reference Services

Users may require services that are different from the Reference Services and Envestra will negotiate such services on a case-by-case basis. Where the same non-reference service is provided to more than one Network User, Envestra will not discriminate between Network Users.

The tariff for a Reference Service takes into account the corresponding service levels and business risks associated with providing the service in accordance with the agreed terms and conditions. Users are able to negotiate different service levels or different terms and conditions, and the delivery of such a service will be priced accordingly (as a Negotiated Service).

3. OPERATING EXPENDITURE

3.1 Forecast operating expenditure

The table below summarises the forecast operating expenditure (including debt raising costs) for the AA period.

Refer to chapter 8 of the AER's final decision for further information regarding the basis on which the opex forecast has been derived.

Table 3.1: Forecast Opex ($m, 2010-11)

	2011-12	2012-13	2013-14	2014-15	2015-16	Total
Operating & Maintenance	14.2	14.5	14.3	14.3	14.3	**71.6**
Admin & General	3.5	3.6	3.3	3.3	3.3	**17.1**
UAFG	0.9	0.9	0.9	0.9	0.9	**4.3**
Network Development	1.5	1.5	1.5	1.5	1.5	**7.4**
FRC	1.0	1.0	1.0	1.0	1.0	**5.0**
Total opex	**21.1**	**21.5**	**21.0**	**20.9**	**20.9**	**105.4**
Debt raising costs	0.2	0.2	0.2	0.2	0.3	1.1
Total opex (inc. debt raising costs)	**21.3**	**21.7**	**21.2**	**21.2**	**21.1**	**106.5**

3.2 Escalators

The following table sets out the escalators to apply to Envestra in the AA period.

Table 6.3 Labour and Materials Escalators

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
EGW Lab	3.2%	1.4%	0.9%	0.0%	-0.6%	-1.6%
General Lab	1.4%	0.4%	0.2%	-0.3%	-0.6%	-1.5%
N-W Materials	0%	0%	0%	0%	0%	0%
General Materials	0%	0%	0%	0%	0%	0%
Construction (capex only)	-%	1.3%	1.4%	0.8%	0.0%	-0.9%

Forecast costs were split into the above categories in accordance with an average of historical breakdown of spend where that data was available. Depending on the available data, the average was taken over a two or three year period. For example, the historical opex spend on odorisation activities was split into respective labour and materials components for each of the last two years, and the average for each category used in splitting the forecast cost, with the

relevant escalator then applied to each category. The same process was used in respect of the capex forecast. Where historical data was not available, component splits were made by reasonable estimation.

3.3 Operating expenditure in the earlier AA period

Information about operating expenditure in the earlier AA period can be found in Table 3.3 in the revised access arrangement information.

4. CAPITAL EXPENDITURE

4.1 Forecast capital expenditure

Table 4.1 summarises the forecast capital expenditure which complies with the NGR.

Table 4.1: Forecast capex for the AA period ($m, 2010-11)

	2011-12	2012-13	2013-14	2014-15	2015-16	Total
Mains Replacement	9.2	9.3	9.4	9.4	9.2	**46.4**
Meter Replacement	1.3	1.4	1.3	1.3	1.4	**6.7**
Augmentation	0.6	4.4	0.1	0.2	0.4	**5.6**
Telemetry	0.5	0.3	0.3	0.4	0.3	**1.9**
Regulators	0.5	0.4	0.4	0.3	0.3	**1.9**
IT	2.6	1.4	1.0	0.1	0.1	**5.2**
Growth Assets	13.1	13.5	12.4	12.0	12.9	**64.0**
Other Dist. System	1.6	1.7	1.4	1.3	1.4	**7.4**
Other Non-Dist. System	0.2	0.3	0.2	0.2	0.2	**1.0**
Total Capex	**29.7**	**32.7**	**26.3**	**25.3**	**26.0**	**140.1**

Refer to chapter 3 of the AER's final decision for further information on the basis and reasoning for the forecast capex.

4.2 Capital expenditure in the earlier AA period

Information about capital expenditure in the earlier AA period can be found in Table 3.5 in the revised access arrangement information.

5. CAPITAL BASE

5.1 Summary

The capital base at 1 July 2011 is $318.9 million ($ nominal) and is forecast to be $457.5 million ($ nominal) at 30 June 2016 as shown below.

Table 5.1: Forecast capital base as at 30 June 2016

	$m
Closing Value of Capital Base (nominal)	$457.5
Closing Value of Capital Base (real $2010-11)	$403.4

5.2 Opening Capital Base for the earlier AA period

Envestra's opening capital base as at 1 July 2006 is $230.5 million in nominal terms.

5.3 Opening capital base

The capital base is adjusted in accordance with rule 77(2) of the NGR.

Conforming capital expenditure was calculated by deducting capital contributions from gross capital expenditure.

Regulatory depreciation for the AA period has been set equal to the depreciation approved by the Queensland Competition Authority (adjusted for actual inflation).

For the purposes of rolling forward the regulatory asset base, the actual percentage change in the March to March CPI has been used. The Consumer Price Index is defined in the AA as the "All Groups Weighted Average for the Eight Capital Cities, as published by the Australian Bureau of Statistics or its successor".

Using the inputs outlined above, the closing capital base for the earlier AA period is set out in table 5.2.

Table 5.2: Roll-forward of the Capital Base 2006-07 to 2010-11 ($m, nominal)

	2006-07	2007-08	2008-09	2009-10	2010-11
Opening Capital Base	230.5	249.9	269.4	283.8	299.3
Less Depreciation	4.9	5.5	6.3	7.1	7.7
Plus Conforming Capital Expenditure	18.4	14.1	13.8	14.2	17.0
Plus Indexation	5.8	10.9	6.8	8.4	10.3
Closing capital base	**249.9**	**269.4**	**283.8**	**299.3**	**318.9**

5.4 Projected Capital Base in the AA period

The projected capital base in the AA period has been determined by adjusting the closing value at 30 June 2011 for forecast capital expenditure, depreciation and inflation in the AA period. A CPI value of 2.55 per cent has been assumed for 2011-12 to 2015-16. It is forecast that the capital base will increase to $457.5 million by June 2016 as set out in the summary table below.

Table 5.3: Projected capital base for the AA period ($m, nominal)

	2011-12	2012-13	2013-14	2014-15	2015-16
Opening capital base	318.9	347.6	379.8	405.5	430.9
plus capital expenditure	31.5	35.6	29.4	29.0	30.6
less Depreciation	10.9	12.2	13.4	13.9	14.9
Inflation Adjustment	8.1	8.9	9.7	10.3	11.0
Closing capital base	**347.6**	**379.8**	**405.5**	**430.9**	**457.5**

6. RATE OF RETURN

6.1 Introduction

This section sets out the rate of return to apply for the AA period.

6.2 Rate of Return

The rate of return on capital determined by the AER is based on the cost of equity plus the cost of debt weighted by the respective proportions of equity and debt in the benchmark capital structure. This is commonly referred to as the weighted average cost of capital (WACC).

The details of how the WACC parameters have been established are set out in the rate of return chapter 5 of the AER final decision. The input parameters and the calculated rate of return are summarised below:

Table 6.1: WACC Parameters

WACC Parameters	Estimate
Risk Free Rate	5.56%
Inflation Forecast	2.55%
Equity Beta	0.80
Market Risk Premium	6.00%
Debt Risk Premium	3.81%
Cost of Equity	10.36%
Cost of Debt	9.37%
Value of Imputation Credits	0.25
Gearing	60.00%
Benchmark Credit Rating	BBB+
Nominal vanilla WACC	**9.77%**

6.3 Other Parameter Values

6.3.1 Gearing

The AER has applied a benchmark gearing of 60% debt for Envestra's regulated assets.

6.3.2 The Value of Imputation Credits

The AER has applied a value of 0.25 for the assumed utilisation of imputation credits, or gamma (γ), of 0.25. Refer to section 7.5 for further information.

6.3.3 Inflation

The AER has estimated the annual rate of inflation to be 2.55% for the AA period.

6.3.4 Debt Raising Costs

The AER has approved an allowance of 10.8 basis points per annum as the benchmark level of debt raising costs in the operating expenditure forecasts.

6.4 Derivation of the WACC

The nominal vanilla WACC of 9.77% has been derived from the formula below. In this formulation of the WACC corporate taxes are dealt with in the forecast cash flows.

$$\text{WACC} = R_e \times \frac{E}{V} + R_d \times \frac{D}{V}$$

The cost of equity is calculated using the CAPM formula set out below:

$$R_e = R_f + \beta_e \times MRP$$

The cost of debt is calculated using the formula set out below:

$$R_d = R_f + DRP$$

where

R_e	10.36%, which is the risk adjusted post-tax cost of equity required by investors derived from the Capital Asset Pricing Model (CAPM)
E	40%, which is the benchmark level of equity expressed as a percentage of V
D	60%, which is the benchmark level of debt expressed as a percentage of V
V	Sum of assumed debt level plus assumed equity level (V = D + E)
R_f	5.56%, nominal risk free rate of return
DRP	3.81%, debt risk premium
R_d	9.37%, cost of debt (R_f + DRP)
MRP	6.00%, the market risk premium
β_e	0.80, the equity beta for the benchmark service provider

7. COST OF TAX

7.1 Introduction

A post-tax regulatory framework has been used to derive the revenue requirement for the Access Arrangement.

7.2 Calculating the Cost of Tax

The forecast cost of tax (FCT) for each year of the AA period is calculated in accordance with the following formula:

$$FCT = (RTI_t x STR_t)(1 - \gamma)$$

where:

RTI_t is an estimate of the regulatory taxable income for regulatory year *t* that would be earned by a benchmark efficient distributor as determined by the AER post-tax revenue model;

STR_t is the expected statutory tax rate for regulatory year *t*; and

γ is the assumed utilisation of imputation credits.

The determination of RTI is based on the same inputs used to determine the regulatory revenue requirement. Specifically, RTI is calculated as the regulatory revenue requirement less operating expenditure that is deductible for tax purposes, tax depreciation and interest expense. The STR is set at 30 per cent while the value of imputation credits (γ or gamma) is set at 0.25.

The benchmark tax liability for Envestra is calculated as total tax payable (RTI multiplied by STR) adjusted for the value of imputation credits (gamma).

7.3 Setting the Tax Asset Value

The opening Tax Asset Base (TAB) was $131.2 million ($ nominal) as at 1 July 2011. The TAB is discussed in the AER's draft and final decisions.

7.4 Tax Losses Carried Forward

There was no tax loss carried forward.

7.5 Value of Imputation Credits (Gamma)

Gamma is the factor used to adjust tax payable for the value attributed to imputation credits[1]. Gamma is the product of two components, known as "the distribution rate" (the proportion of created franking credits that are distributed to shareholders by attaching them to dividends) and "theta" (the value to the relevant shareholder of each franking credit that is distributed to them).

[1] The terms 'gamma', franking credits and 'value of imputation credits' are used interchangeably throughout this submission.

In the regulatory context, the higher (lower) the value of gamma the lower (higher) the revenue and cash flow available to the regulated business. Consequently, the value of gamma affects the revenue and cash flow available to support the business's operations and credit rating, and to provide the required return to its investors.

A gamma value of 0.25 has been adopted, consistent with the decision of the Australian Competition Tribunal.

7.6 Benchmark Cost of Tax

The cost of tax calculation, applying the approach and parameters set out in this section, is shown in table 7.1.

Table 7.1: Benchmark Cost of Tax Calculation, 2011-12 to 2015-16 ($m, nominal))

	2011-12	2012-13	2013-14	2014-15	2015-16
Total Revenue	58.4	62.7	66.2	68.8	72.2
less Opex	21.8	22.9	22.9	23.4	24.0
less Interest	17.9	19.5	21.4	22.8	24.2
less tax depreciation	6.9	8.8	10.9	12.6	14.2
less tax losses carried forward	0.0	0.0	0.0	0.0	0.0
Taxable Income	11.7	11.5	11.0	9.9	9.9
Tax payable	**3.5**	**3.5**	**3.3**	**3.0**	**3.0**
Value of Imputation Credits	0.9	0.9	0.8	0.7	0.7
Benchmark Cost of Tax	**2.6**	**2.6**	**2.5**	**2.2**	**2.2**

8. INCENTIVE MECHANISM

8.1 Summary

This section sets out the incentive mechanism to apply for the access arrangement period.

8.2 Incentive Mechanism for the access arrangement period

The AER approved a rolling carryover incentive mechanism which will operate during the access arrangement period in accordance with r. 98 of the NGR. Details regarding the operation of this incentive mechanism are set out in section 5 of the AA. For further information regarding the basis on which the incentive mechanism was approved for the AA period refer to chapter 7 of the AER's final decision.

9. TOTAL REVENUE

Envestra's total revenue requirement was determined using a building block approach (in accordance with Rule 76 of the NGR). The building block components are:

- a return on the projected capital base.
- depreciation of the projected capital base.
- a forecast of opex.
- a forecast of the Cost of Tax.

Envestra's total required revenues and X factors for each year of the AA period are calculated using the Post Tax Revenue Model and summarised in the following table.

Table 9.1: Annual revenue requirement and X factors ($m, nominal)

	2011-12	2012-13	2013-14	2014-15	2015-16
Return on capital	31.1	33.9	37.1	39.6	42.1
Return of capital	2.8	3.3	3.7	3.5	4.0
plus operating and maintenance	21.8	22.9	22.9	23.4	24.0
plus benchmark tax liability	2.6	2.6	2.5	2.2	2.2
Revenue requirement	**58.4**	**62.7**	**66.2**	**68.8**	**72.2**
less: ancillary services	0.5	0.5	0.6	0.6	0.6
Total haulage services revenue	**57.8**	**62.2**	**65.6**	**68.2**	**71.6**
Smoothed haulage services revenue	**54.9**	**60.4**	**65.5**	**70.6**	**75.9**
X factors					
Haulage services (%)	-9.69	-5.00	-5.00	-4.00	-3.00
Ancillary Services (%)	0.00	0.00	0.00	0.00	0.00

10. DEMAND FORECASTS

10.1 Network Usage for the earlier access arrangement period

Distribution network customer numbers by tariff class, minimum, maximum and average demand figures over the earlier access arrangement period are set out in Table 13.1 below. These figures are based on actual demand for financial years 2006/07 to 2008/09, and forecast demand for financial years 2009/10 to 2010/11.

Table 10.1: Network customer numbers, minimum, maximum and average demand over the earlier access arrangement period

	2006-07	2007-08	2008-09	2009-10F	2010-11F
Volume Class customer numbers	77163	79060	81704	83826	85414
Demand Class customer numbers	66	70	66	66	68
Total customer numbers	**77229**	**79130**	**81770**	**83892**	**85482**
Minimum Demand (TJ/d)	33.4	27.9	26.9	22.8	19.6
Maximum Demand (TJ/d)	57.2	55.1	58.3	58.5	59.0
Average Demand (TJ/d)	**45.4**	**45.8**	**45.5**	**43.6**	**43.7**

10.2 Forecast customer numbers and demand

Forecast customer numbers and demand by tariff class for the access arrangement period are set out in Table 10.2 below.

Table 10.2: Forecast customer numbers and demand for the access arrangement period

	2011-12	2012-13	2013-14	2014-15	2015-16
Tariff R customer numbers	82921	85180	87459	89576	91752
Tariff R consumption (TJ)	653.0	655.6	656.6	657.1	658.8
Tariff V customer numbers	4557	4641	4649	4672	4726
Tariff V consumption (TJ)	1373.3	1412.8	1423.0	1442.7	1473.7
Tariff D customer numbers	72	73	73	73	74
Tariff D MDQ (GJ)	20572	20956	20895	21016	21403

11. REFERENCE TARIFFS

11.1 Introduction

Envestra recovers its regulated revenue by charging tariffs to customers for Haulage Reference Services and Ancillary Reference Services. The Haulage Reference Tariffs will apply to three categories of Delivery Points:

1. Residential Volume Tariff (Tariff R);

2. Commercial and Small Industrial Volume Tariff (Tariff C); and

3. Demand Tariffs (Tariff D).

In earlier Access Arrangement Periods, Envestra's Haulage Reference Tariffs covered two categories:

1. Volume Tariff V – comprising residential, commercial and small industrial customers; and

2. Demand Tariffs (Tariff D).

In the AA period, Envestra will apply separate Reference Tariffs for residential (Tariff R) and commercial and small industrial (Tariff C) customers due to their different usage profiles. The new tariffs will apply from 1 July 2011.

Customers will be assigned to each of the three tariffs based on their geographic zone, type of connection (ie residential-non-residential) and their usage profile (ie Tariff C versus Tariff D). The charging parameters for the volume tariffs (Tariffs R and C) are structured as "declining block tariffs" and also comprise a supply charge. The same price applies irrespective of geographic location.

Tariff D is also structured as a "declining block tariff," however the quantity charged reflects a capacity signal, the Maximum Daily Quantity (MDQ) agreed between Envestra and the customer. Tariff D is also location specific, with different rates applying depending upon into which geographical zone in which a Delivery Point is situated.

Envestra proposed no changes to the structure of Tariff D. Tariff C will continue with the same structure as the current Tariff V. Tariff R will comprise a declining three block structure.

The Full Retail Contestability (FRC) charges in the Queensland tariff schedule for the earlier AA period will no longer be separately identified. FRC costs will now be bundled into the standard Reference Service Tariffs.

11.2 Haulage Reference Service Tariff Classes

Table 11.1 below details the Queensland Tariff Classes.

Table 11.1 Queensland Tariff Classes

Tariff Class	Haulage Reference Service	Geographical Zone
Tariff R – Residential	Domestic	Brisbane & Riverview
Tariff R – Residential	Domestic	Northern
Tariff C – Commercial	Commercial	Brisbane & Riverview
Tariff C – Commercial	Commercial	Northern
Tariff D – Northern	Demand	Gladstone & Rockhampton
Tariff D – Brisbane	Demand	Brisbane
Tariff D – Riverview	Demand	Ipswich

11.2.1 Volume Tariff Classes – Tariff R (Residential) and Tariff C (C&I)

Volume Tariff Classes comprise two categories – Tariff R (Residential) and Tariff C (Commercial). Tariff R relates directly to the Domestic Haulage Reference Service while Tariff C relates directly to the Commercial Haulage Reference Service. Each constitutes its own reference tariff.

Both Tariff R and Tariff C comprise the following charging parameters:

- Supply charge (in dollars per day); and
- Banded actual volume charges (in dollars per GJ per day).

These are discussed in turn below.

Supply Charge

The supply charge is a fixed daily charge that applies to all Volume Delivery Points. Different supply charges apply to Domestic and Commercial Delivery Points, and are designed to:

- provide signals to customers about their connection costs, having regard for the size, location and type of network user; and
- inform a customer's decision to connect to Envestra's network by providing a constant and foreseeable cost.

Banded Actual Volume Charges

Both Tariff R and Tariff C consist of a number of volumetric consumption charging parameters (in dollars per GJ per day). These charging parameters have been designed to

recover any residual allocated costs that are relative to the "size" of the customer but not specifically their network demand.

Tariff R will shift to three volumetric consumption bands in the Third Access Arrangement Period. Tariff R currently has two volumetric consumption bands.

- a charge for the first 0.0082GJ of Gas Delivered ($GJ);
- a charge for the next 0.0192GJ of Gas Delivered ($GJ); and
- a charge for Additional Gas Delivered ($GJ).

Tariff C will maintain the volumetric consumption bands of the current Tariff V.

- a charge for the first 0.20GJ of Gas Delivered ($GJ);
- a charge for the next 0.30GJ of Gas Delivered ($GJ);
- a charge for the next 0.50GJ of Gas Delivered ($GJ);
- a charge for the next 1.00GJ of Gas Delivered ($GJ);
- a charge for the next 5.00GJ of Gas Delivered ($GJ); and
- a charge for Additional Gas Delivered ($GJ).

Tariff R and Tariff C are structured as "declining block tariffs". The volumetric charging parameters apply to the actual gas consumed during the read cycle. The declining block structures reflect the declining unit costs to Envestra of customers increasing their gas consumption.

11.2.2 Demand Tariff Classes – Tariff D

The structure of the Demand Tariff Classes consist of a number of banded MDQ charging parameters (in dollars per GJ of MDQ per day), with the first band effectively representing a fixed charge as a minimum chargeable MDQ applies. Consistent with the Volume Tariffs, Tariff D is a "declining block tariff", whereby the charges become smaller as MDQ increases.

The MDQ charges are capacity charges intended to reflect the demands on the network assets. The structure provides economic signals to customers of a preferred usage profile. The locational aspect of Tariff D reflects the cost of servicing customers and also incentivises customers to connect to those parts of the network that will impose the least costs on Envestra and customers.

For each of the Demand Tariff Classes in Queensland, Tariff D contains seven MDQ bands as follows:

- MDQ of 50GJ or less;
- next 75GJ of MDQ;
- next 150GJ of MDQ;

- next 250GJ of MDQ;
- next 500GJ of MDQ;
- next 10,000GJ of MDQ; and
- additional GJ of MDQ

11.3 Ancillary Reference Services

Reference Tariffs for Ancillary Reference Services will be maintained in real terms over the AA period. The tariffs reflect a continuation of charges in the earlier AA period, with increases reflecting inflation only.

11.4 Avoidable and Stand-Alone Costs

Envestra's tariffs are consistent with rule 94(3) of the NGR, which requires the tariffs to be between stand alone and avoidable costs. Refer to chapter 11 of the AER's final decision for discussion of this issue.

11.5 Long Run Marginal Costs

Envestra's tariffs are consistent with rule 94(4) of the NGR, which requires long run marginal costs to be taken into account when designing tariffs. See chapter 11 of the AER's final decision for an analysis of this issue.

11.6 Grouping of Reference Tariffs on an Economically Efficient Basis

Envestra has developed its tariff classes in recognition of the need to group together network users on an economically efficient basis.

11.7 Transaction Costs

Envestra has taken into account transaction costs when determining tariffs, charging parameters and tariff classes.

11.8 Response to Price Signals

Envestra has developed its tariffs and the charging parameters that constitute each tariff in such a manner that customers are able or likely to respond to price signals. The manner in which the Tariff D, Tariff R and Tariff C tariffs, and their associated charging parameters, have been developed is set out below.

11.8.1 Demand Tariff Classes

Tariff D has been structured so that network users can respond to pricing signals whilst providing certainty to network users on the amount of their annual charge. This is because the Tariff D tariffs are structured as "declining block tariffs" based only on an agreed MDQ, not the actual consumption of gas consumed on any given day. Consequently, the Tariff D tariff structure incentivises network users to manage their actual gas consumption within the constraints of their agreed MDQ. This promotes better capacity utilization of Envestra's network.

11.8.2 Domestic and Commercial Tariff Classes

The variable nature of the volume charge for Tariff R and Tariff C implies that customers are able to respond to price signals. Furthermore, the Tariff R threshold that defines the step between the first, second and third tariff bands has been set with regard to the spread of appliance penetrations across domestic network users in Queensland.

Tariff R and Tariff C are structured as declining block tariffs, which provides a strong incentive for network users to increase consumption, thereby shifting consumption towards the higher tariff bands where the volumetric rates are lower.

Reference Tariffs for 2011-12 are set out in Annexure B of the AA.

12. TARIFF VARIATION MECHANISM

The formulae for annual routine adjustment of tariffs are described in section 4.4 of the AA and set out in Annexure E of the AA. Those formulae are unchanged from those that currently apply.

12.1 Haulage Reference Services

12.1.1 Tariff Variation Mechanism

A tariff basket annual tariff variation mechanism in the form of a weighted average price cap (WAPC) formula applies to haulage reference services through to 2015-16. The definition of CPI has been altered to from the earlier AA period to be a comparator of indices, consistent with South Australia, as opposed to the previous definition of the change in CPI over a year. The change in the definition of CPI has no effect on the values calculated by the formula, but the formula shifts from having $(1+CPI_t)$ to CPI_t.

The Tariff Control Formula is detailed in Box 1.

BOX 1 TARIFF CONTROL FORMULA

The following formula applies separately to each of Tariff R, C and D:

$$(CPI_t)(1-X_t) \geq \frac{\sum_{i=1}^{n}\sum_{j=1}^{m} p_t^{ij} \bullet q_{t-2}^{ij}}{\sum_{i=1}^{n}\sum_{j=1}^{m} p_{t-1}^{ij} \bullet q_{t-2}^{ij}}$$

where:

CPI_t is calculated as the CPI for the year ending 31 March immediately preceding the start of year t, divided by the CPI for the year ending 31 March immediately preceding the start of year t-1;

X_t is -0.05 for 20012-13;

X_t is -0.05 for 20013-14;

X_t is -0.04 for 20014-15;

X_t is -0.03 for 20015-16;

n is the number of different Reference Tariffs;

m is the different components, elements or variables ("components") comprised within a Reference Tariff;

p_t^{ij} is the proposed component j of Reference Tariff ***i*** in year ***t***;

p_{t-1}^{ij} is the prevailing component j of Reference Tariff ***i*** in year ***t – 1*** ; and

q_{t-2}^{ij} is the audited quantity of component j of Reference Tariff *i* that was sold in year ***t – 2*** (expressed in the units in which that component is expressed (eg, GJ)).

The Rebalancing Control Formula is detailed in Box 2 and is consistent with the formula applied in the earlier AA period, other than the inclusion of an X factor. The inclusion of the X factor will enable Envestra to recover its proposed allowed revenue and is consistent with its South Australian network and the AER's recent Jemena NSW gas distribution final decision[2]. A Y factor of 0.02 has been adopted.

The CPI definition has also been altered to be consistent with the definition used in the Tariff Variation Mechanism.

Box 2 forms part of Annexure B of the AA.

BOX 2 REBALANCING CONTROL FORMULA

$$(CPI_t)(1-X_t)(1+Y_t) \geq \frac{\sum_{j=1}^{m} p_t^j \bullet q_{t-2}^j}{\sum_{j=1}^{m} p_{t-1}^j \bullet q_{t-2}^j}, i = 1,...n$$

where:

CPI_t is calculated as the CPI for the year ending 31 March immediately preceding the start of year t, divided by the CPI for the year ending 31 March immediately preceding the start of year t-1;

X_t is -0.05 for 20012-13;

X_t is -0.05 for 20013-14;

X_t is -0.04 for 20014-15;

X_t is -0.03 for 20015-16;

Y_t is 0.02;

m is the components comprised within Reference Tariff ;

p_t^j is the proposed component j of Reference Tariff in year ***t***;

p_{t-1}^j is the prevailing component j of Reference Tariff in year ***t – 1***;

q_{t-2}^j is the audited quantity of component j of Reference Tariff that was sold in year ***t – 2*** (expressed in the units in which that component is expressed (eg, GJ)); and

n is the number of different Reference Tariffs.

12.1.2 Transitional measures

To accommodate the creation of the new Tariff R, Envestra proposed the following transitional measure.

The price control relies upon historic demand data from two years prior (year t-2) to provide the weights in the WAPC formula. It also relies on historic price from the year prior (year t-1) to assess the price movements into the year of the proposed prices (year t).

[2] Page 372 AER Final Decision Jemena Gas Networks Access arrangement proposal for the NSW gas networks 1 July 2010 to 30 June 2015 – June 2010

Historic Tariff R prices for year t-1 will not be available until 2012-13. Envestra has therefore developed a set of launch tariffs for 2010-11 to give effect to the WAPC. The 2010-11 launch tariffs are revenue neutral - that is, the revenue recovered form the launch tariffs matches the revenue recovered from the current 2010-11 tariffs utilising 2008-09 billed quantities. The 2010-11 launch tariffs have been utilised in the PTRM to establish the implied tariffs for the 2011-12 to 2015-16 period.

Historic Tariff R data for year t-2 will not be available until 2013-14. Envestra proposes to use the actual small domestic Tariff V[3] data for 2009-10 and 2010-11 (the relevant t-2 years for regulatory years 2011-12 and 2012-13 respectively) and apply the proportions used for converting NIEIR's gross residential forecasts into the chargeable quantities forecast used in the PTRM. The proportions were derived utilising actual read data from a sample of approximately 2,000 residential MIRNs.

Tariff V will be renamed Tariff C effective 1 July 2011 in recognition of its customer base consisting of commercial and small industrial customers.

12.1.3 Tariff Variation Process

Envestra is required to submit an annual reference tariff proposal to the AER for approval at least 50 business days prior to the relevant financial year in which the proposed tariffs are to apply.

12.2 Ancillary Reference Services

Reference Tariffs for Ancillary Reference Services will increase by inflation (CPI) in each year of the AA period.

12.2.1 Ancillary Reference Tariff Variation Mechanism

Reference Tariffs for Ancillary Reference Services will be varied annually on the basis of the following Reference Tariff Control Formula:

$$ART_t = ART_{t-1} \times CPI_t$$

where:

ART_t is the Reference Tariff that will apply to an Ancillary Reference Service in year $_t$;

ART_{t-1} is the Reference Tariff that applied to that Ancillary Reference Service in year $_{t-1}$; and

CPI_t is calculated as the CPI for the year ending 31 March immediately preceding the start of year t, divided by the CPI for the year ending 31 March immediately preceding the start of year t-1.

[3] Customers currently assigned to Tariff V are designated as domestic or commercial-small industrial. Domestic currently also includes bulk hot water for multi unit dwellings. It is proposed that Tariff R will only apply to single unit dwellings. Multi unit bulk hot water will shift to Tariff C (the old Tariff V).

12.2.2 Ancillary Tariff Variation Process

The tariff variation process will follow Envestra's Haulage Reference Tariff variation process.

12.3 Cost Pass Through Events and Process

In accordance with Rule 97(c) of the NGR, Envestra has proposed a number of defined events or Cost-Pass Through Events for the AA period. These events are defined in section 4.5 of the AA. The AER has approved the events, and the process for assessment of Cost Pass Through Events in chapter 12 of its final decision for Envestra.

The process for assessment of Cost Pass Through Events is defined in chapter 4.6.2 of the AA.

12.3.1 Materiality Threshold

All Cost Pass Through Events are subject to a materiality threshold. The threshold is defined in defined in section 4.5 of the AA. Refer to chapter 12 of the AER's final decision for further discussion of the materiality threshold.

13. NON-TARIFF COMPONENTS

13.1 Capacity Trading

The capacity trading policy is outlined in section 7 of the AA. Refer to chapter 13 of the AER's final decision for further information.

13.2 Network Extensions and Expansions

The extensions and expansions policy is outlined in section 8 of the AA. Refer to chapter 13 of the AER's final decision for further information.

13.3 Terms and Conditions

13.3.1 Overview of Terms and Conditions

The terms and conditions (T&C) applicable to the provision of Reference Services are dealt with in section 6 of the AA. The detailed T&C are contained in Annexure G to the AA.

The following summary of the T&C may assist Prospective Users in understanding aspects of the terms of access:

(1) Pursuant to section 6 of the AA, it is a condition that a Prospective Network User enter into an Agreement with Envestra for the provision of any Network Service. The term 'Agreement' is defined in the AA and means the entering into of a binding contractual arrangement between Envestra and a Network User. Prior to entering into an Agreement, a Prospective Network User must satisfy Envestra that it:

- has the necessary financial capacity to meet its obligations to Envestra; and
- has adequate arrangements in place to ensure it can keep Gas deliveries into and out of the Network in balance.

(2) Annexure F allows for the details pertaining to the specific circumstances of the parties entering into the agreement.

(3) Annexure G sets out the terms and conditions that are to apply, as a minimum, to the provision of each Reference Service. It describes terms and conditions which are applicable to both Haulage and Ancillary Reference Services (Part IV of the terms and conditions), as well as those terms and conditions which apply specifically to each type of Reference Service (Part II – Haulage Reference Services, and Part III – Ancillary Reference Services).

(4) The clauses applying to Haulage Reference Services (Part II) address matters including:

- procedures for classifying Delivery Points;
- meter accuracy and reading;
- minimum Gas quality and delivery pressures;

- possession of Gas and responsibility;
- warranties and title to Gas; and
- supply curtailment.

(5) Part III applies only to the Ancillary Reference Services. This part only consists of one clause because the Retail Market Procedures deal extensively with the obligations surrounding these services.

(6) (Part IV) applies both to Haulage Reference Services and Ancillary Reference Services. These clauses address matters including:

- invoices and payment arrangements;
- procedures for determining delivered quantities;
- termination;
- liability and indemnities;
- Force Majeure;
- assistance;
- access to premises;
- confidentiality;
- notices;
- assignment by the Network User;
- amendment of the Agreement; and
- other miscellaneous provisions.

The obligations, duties and responsibilities of Envestra and any Network User described in the T&C are in addition to those established in law or by any relevant regulatory instrument.