

Final

**Access arrangement for the ACT,
Queanbeyan and Palerang gas
distribution network**

1 July 2016 - 30 June 2021

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1. Introduction

Access Arrangement

- 1.1 This Access Arrangement sets out the terms on which Users can access ActewAGL's gas distribution Network in the ACT, Queanbeyan and Palerang.
- 1.2 Users wishing to gain access should contact:

Commercial Operations Manager
Networks Commercial
Jemena Asset Management
Level 14, 99 Walker St
North Sydney NSW
Email: RFS@jemena.com.au

ActewAGL's Network

- 1.3 As at the Commencement Date, ActewAGL's gas distribution Network comprises approximately 5,000 km of pipeline covering the ACT, Queanbeyan, Palerang and includes Pipeline licence no. 29 from Hoskinstown to Fyshwick.
- 1.4 A map of the Network is available on ActewAGL's website at <http://www.actewagl.com.au/About-us/The-ActewAGL-network/Natural-gas-network.aspx>. As at the Commencement Date, that map is also set out in the Access Arrangement Information.

Structure of this Access Arrangement

- 1.5 The structure of this Access Arrangement reflects the requirements of the National Gas Rules, and is organised as follows:
- (a) Introduction - section 1;
 - (b) Services Policy - section 2;
 - (c) Incentive Mechanism - section 3;
 - (d) Capital Expenditure - section 4;
 - (e) Fixed Principles - section 5;
 - (f) Return on debt and averaging period nomination - section 6;
 - (g) Variations to Reference Tariffs - section 7;
 - (h) Tariff Categories - section 8;
 - (i) Extensions/Expansion Policy - section 9;
 - (j) Capacity Trading Policy - section 10;
 - (k) Changing Receipt and Delivery Points - section 11;

(l) Queuing Policy - section 12; and

(m) Liability - section 13.

1.6 The Schedules are organised as follows:

(a) Definitions - Schedule 1;

(b) Request for Service procedure - Schedule 2;

(c) Reference Tariff Schedule - Schedule 3;

(d) Reference Tariff Adjustment Factors - Schedule 4;

(e) Reference Service Agreement - Schedule 5;

(f) Interconnection of Embedded Network Service - Schedule 6;

(g) Operational Schedule - Schedule 7;

(h) Receipt Point Pressures - Schedule 8; and

(i) Extrapolation Methodologies - Schedule 9.

1.7 Supporting information is provided in the Access Arrangement Information that has been submitted as a separate document.

Commencement of this Access Arrangement

1.8 This Access Arrangement commences on the later of:

(a) 1 July 2016; and

(b) if the Relevant Regulator's approval of this Access Arrangement takes effect under the National Gas Rules on a date after 1 July 2016, that date.

Revisions to this Access Arrangement

1.9 For the purposes of rule 49(1)(a) of the National Gas Rules:

(a) the review submission date is 30 June 2020; and

(b) the revision commencement date is 1 July 2021.

Access Arrangement subject to Applicable Law

1.10 All provisions in this Access Arrangement are subject to all Applicable Laws.

1.11 In this Access Arrangement, a term or expression starting with a capital letter has the meaning given to it in Schedule 1, unless the context otherwise requires.

2. Services Policy

The Services

2.1 ActewAGL offers the following Services:

- (a) the Reference Service, being the Haulage Reference Service; and
- (b) Non-Reference Services.

Haulage Reference Services

2.2 ActewAGL will make the Haulage Reference Service available to Users and Prospective Users at the eligible delivery points specified in clause 2.4.

2.3 The Haulage Reference Service is a Service for:

- (a) the transportation of gas by ActewAGL through the Network to a single eligible Delivery Point for use and consumption within the premises served by that Delivery Point;
- (b) meter reading and associated data activities, and the provision and maintenance of a standard metering installation at the Delivery Point as appropriate for the required capacity and meter reading frequency; and
- (c) ancillary activities as set out in the Reference Tariff Schedule, as may be requested by a User.

2.4 A delivery point is eligible for a Haulage Reference Service if:

- (a) it is a Delivery Point existing on the Network to which a service designated as a reference service under the 2010-15 access arrangement is provided on the Commencement Date; or
- (b) it is a new delivery point, established on or after the Commencement Date, that is served from existing Network facilities, where:
 - (i) the maximum allowable operating pressure is less than or equal to 500 kPa and ActewAGL reasonably expects that the Delivery Point will consume less than 10 TJ per annum; or
 - (ii) the maximum allowable operating pressure is less than or equal to 1,050 kPa and ActewAGL reasonably expects that the Delivery Point will consume 10 TJ per annum or greater.

Terms and Conditions

2.5 Subject to clause 2.6, the terms and conditions upon which ActewAGL will supply the Haulage Reference Service are set out in the Reference Service Agreement in Schedule 5.

- 2.6 ActewAGL may seek the Relevant Regulator's approval to amend the terms of the Reference Service Agreement during this Access Arrangement Period in accordance with Division 10 of Part 8 of the National Gas Rules.

Non-Reference Services

- 2.7 ActewAGL offers the following Non-Reference Services on the Network to Users and Prospective Users:
- (a) the Interconnection of Embedded Network Service, which is described in clause 2.8 below; and
 - (b) Negotiated Services, which are described in clause 2.9 below.

Interconnection of Embedded Network Service

- 2.8 The Interconnection of Embedded Network Service is a Service provided by ActewAGL to an Embedded Network Operator for the establishment of a single Delivery Point on an Embedded Network connected to the Network, on the terms and conditions specified by ActewAGL upon application for this Service, ordinarily including those contained in Schedule 6.

Negotiated Services

- 2.9 Where a Prospective User has specific needs which differ from those which would be satisfied by the Reference Service or the Interconnection of Embedded Network Service, the Prospective User may seek to negotiate different terms and conditions as a Negotiated Service and enter into a Negotiated Service Agreement with ActewAGL.
- 2.10 Should a dispute arise between ActewAGL and a Prospective User about the provision of a Negotiated Service it will be resolved in accordance with the dispute resolution procedures in the National Gas Law and the National Gas Rules, unless the parties agree otherwise in the Negotiated Service Agreement.

Requests for Service

- 2.11 A User or Prospective User who seeks to obtain the Reference Service or a Non-Reference Service must comply with the Request for Service procedures set out in Schedule 2 regardless of whether the User or Prospective User seeks to obtain a Service for the first time or a change to an existing Service to a Delivery Point.
- 2.12 ActewAGL's ability to offer a Service in response to a Request is subject to the Queuing Policy.
- 2.13 All Users of a Service are required to enter into a Service Agreement specific to the relevant User and that Service before receiving the Service and must agree to be bound by the provisions of the Operational Schedule.

3. Incentive mechanism

Operation of incentive mechanism

3.1 The incentive mechanism specified in this clause 3 will apply to operating expenditure incurred in the Applicable Access Arrangement Period and will operate in the following way:

- (a) ActewAGL will retain the benefit of efficiency gains derived from actual operating expenditure being lower, or incur efficiency losses derived from actual operating expenditure being higher, than forecast operating expenditure included in the Total Revenue in each Financial Year of the Applicable Access Arrangement Period;
- (b) the mechanism carries forward ActewAGL's incremental efficiency gains (or losses) for five Financial Years from the Financial Year in which those gains (or losses) occur;
- (c) annual carryover amounts accrue in each Financial Year of the Subsequent Access Arrangement Period as the summation of the incremental efficiency gains (or losses) in the Applicable Access Arrangement Period that are carried forward for five years or less into that Financial Year; and
- (d) the annual carryover amounts are added to ActewAGL's Total Revenue in each Financial Year of the Subsequent Access Arrangement Period.

Incremental efficiency gains or losses

3.2 The incremental efficiency gain (or loss) for the first year (year one) of this Access Arrangement Period will be calculated using the following equation:

$$E_1 = (F_1 - A_1)$$

where:

E_1 is the efficiency gain for year one of the Applicable Access Arrangement Period.

F_1 is the forecast operating expenditure for year one of the Applicable Access Arrangement Period.

A_1 is the actual operating expenditure for year one of the Applicable Access Arrangement Period.

3.3 The incremental efficiency gain (or loss) for year five of the Applicable Access Arrangement Period will be calculated using the following equation:

$$E_5^* = (F_5 - A_5^*) - (F_4 - A_4)$$

where:

A_5^* is the estimate of actual operating expenditure for year five of the Applicable Access Arrangement Period and is estimated using the following equation:

$$A_5^* = F_5 - (F_b - A_b) + \text{non-recurrent efficiency gains}_b$$

F_5 is forecast operating expenditure for year five of the Applicable Access Arrangement Period.

F_b is the forecast operating expenditure for the Base Year.

A_b is the actual operating expenditure in the Base Year.

Non-recurrent efficiency gains_b means any non-recurrent efficiency gains which were achieved in the Base Year but removed by the Relevant Regulator for the purposes of forecasting operating expenditure for the Applicable Access Arrangement Period on the basis that they were not likely to extend to years after the Base Year.

3.4 The incremental efficiency gain (or loss) for the second, third and fourth years of the Applicable Access Arrangement Period will be calculated using the following equation:

$$E_i = (F_i - A_i) - (F_{i-1} - A_{i-1})$$

where:

E_i is the efficiency gain for year i of the Applicable Access Arrangement Period.

F_i is the forecast operating expenditure for year i of the Applicable Access Arrangement Period.

A_i is the actual operating expenditure for year i of the Applicable Access Arrangement Period.

3.5 The incremental efficiency gain (or loss) for the first year of the Subsequent Access Arrangement Period (referred to as year six) is to be calculated using the following equation:

$$E_6 = (F_6 - A_6) - (F_5 - A_5) + (F_b - A_b) - \text{non-recurrent efficiency gains}_b$$

where:

E_6 is the efficiency gain for the first year of the Subsequent Access Arrangement Period.

F_6 is forecast operating expenditure for the first year of the Subsequent Access Arrangement Period.

A_6 is the actual operating expenditure for the first year of the Subsequent Access Arrangement Period.

F_5 is forecast operating expenditure for year five of the Applicable Access Arrangement Period.

A₅ is the actual operating expenditure for year five of the Applicable Access Arrangement Period.

F_b is the forecast operating expenditure for the Base Year.

A_b is the actual operating expenditure for the Base Year.

Non-recurrent efficiency gains_b means any non-recurrent efficiency gains which were achieved in the Base Year but removed by the Relevant Regulator for the purposes of forecasting operating expenditure for the Applicable Access Arrangement Period on the basis that they were not likely to extend to years after the Base Year.

Application of efficiency gains or losses

- 3.6 Increments or decrements from the summation of incremental efficiency gains or losses calculated in accordance with the incentive mechanism in the Applicable Access Arrangement Period will give rise to an additional "building block" in the calculation of the Total Revenue amounts under rules 76(d) and 98(2) of the National Gas Rules for each Financial Year of the Subsequent Access Arrangement Period.
- 3.7 The incremental efficiency gains (or losses) will be carried into the Subsequent Access Arrangement Period in real dollars to ensure that they are not eroded by inflation. The measure of inflation will be consistent with the measure used in the Access Arrangement Information.

Application of formulae

- 3.8 For the purposes of applying the formulae set out in clauses 3.2 to 3.5:
- (a) the forecast operating expenditure amount for each year will be adjusted to take into account:
- (i) any change in the scope of the activities which form the basis for determining the forecast expenditure. ActewAGL will provide information in relation to any change in scope, to be assessed by the Relevant Regulator, as part of the access arrangement information for the Subsequent Access Arrangement Period. This information will, without limitation, quantify and substantiate the impact of the scope changes on the original benchmarks;
 - (ii) any difference between the actual number of connections in a calendar year and the forecast number of connections for that year multiplied by the operating expenditure per connection, as set out in the access arrangement information for the Subsequent Access Arrangement Period; and
 - (iii) any change in ActewAGL's approach to classifying costs as either capital expenditure or operating expenditure during the Applicable Access Arrangement Period such that the forecast operating expenditure used in applying the relevant formula(e) is consistent with the capitalisation policy changes. If there is a change in ActewAGL's approach to classifying costs as either capital expenditure or operating expenditure during the Applicable Access

Arrangement Period, ActewAGL must provide a detailed description of the change and a calculation of its impact on forecast and actual operating expenditure for each year of the Applicable Access Arrangement Period in its access arrangement information for the Subsequent Access Arrangement Period;

- (b) the following expenditure will be excluded from the operation of the incentive mechanism:
 - (i) debt raising costs;
 - (ii) insurance costs (other than self-insurance costs);
 - (iii) superannuation costs;
 - (iv) payments made in respect of non-controllable costs including, without limitation:
 - (A) levies, taxes, licences, UAG costs, Carbon Costs and any other type of payment referred to in clauses 2.1 to 2.4 of Schedule 3; and
 - (B) anything else approved by the Relevant Regulator as a cost which is beyond the control of ActewAGL. For the purposes of this sub-clause, a cost will be considered approved if, following written notification from ActewAGL to the Relevant Regulator of a proposed non-controllable cost, the Relevant Regulator has provided written notification that the proposed non-controllable cost is approved or has not responded to the notification within 20 Business Days; and
 - (v) any expenditure incurred in respect of an expenditure category that:
 - (A) is not forecast using a single year revealed cost approach in the Access Arrangement Period immediately following that covered by this Access Arrangement; and
 - (B) the Relevant Regulator determines, as part of a decision on revisions to apply to this Access Arrangement (and following the consultation processes associated with that decision), to exclude from the operation of the incentive mechanism applicable in this Access Arrangement Period because it is satisfied that failing to do so would not promote the National Gas Objective; and
- (c) the actual operating expenditure amount for each year of the Applicable Access Arrangement Period will be adjusted to exclude any Determined Pass Through Amounts or other expenditure arising from Cost Pass Through Events which apply in respect of that year.

3.9 In the event that an Interval of Delay occurs following the Applicable Access Arrangement Period, the incentive mechanism specified in this section 0 applies to operating expenditure incurred in the Applicable Access Arrangement Period and will operate in the manner set out in clause 3.1 subject to the following modifications:

- (a) the incentive mechanism specified in this section 0 will not apply to operating expenditure incurred in that Interval of Delay such that incremental efficiency gains or losses will not be calculated in respect of the period of the Interval of Delay;
- (b) the annual carryover amounts derived from the incremental efficiency gains (or losses) in the Applicable Access Arrangement Period will not be applied in deriving any notional Total Revenue determined for the Interval of Delay or in otherwise taking into account the operation of rule 92(3) in fixing reference tariffs for the Subsequent Access Arrangement Period but will instead accrue in the Subsequent Access Arrangement Period and be added to ActewAGL's Total Revenue in each Financial Year of the Subsequent Access Arrangement Period in the same manner as would have occurred had there been no Interval of Delay; and
- (c) the incremental efficiency gain (or loss) in the first year of the Subsequent Access Arrangement Period will be calculated using a formula equivalent to that set out in clause 3.2, as applied to that year, rather than the formula set out in clause 3.5.

4. Capital Expenditure

Speculative capital expenditure

- 4.1 Any new capital expenditure undertaken by ActewAGL that does not satisfy the requirements of rule 79 of the National Gas Rules (referred to in those Rules as non-conforming capital expenditure), to the extent that it is not to be recovered through a Surcharge on Users or a capital contribution by Users under rule 82 of the National Gas Rules, forms part of the Speculative Capital Expenditure Account (as contemplated by rule 84 of the National Gas Rules). ActewAGL may increase the Capital Base in accordance with rule 84(3) of the National Gas Rules if a part of the Speculative Capital Expenditure Account subsequently satisfies the requirements of rule 79 of the National Gas Rules.

Review of Capital Base after expiry of an Access Arrangement

- 4.2 The Capital Base at the commencement of the Subsequent Access Arrangement Period will be assessed by the Relevant Regulator using the information in relation to those assets in:
- (a) the asset register; and
 - (b) the database on capital contributions.
- 4.3 In calculating the Capital Base at that time, depreciation is to be based on forecast capital expenditure.

Asset register

- 4.4 ActewAGL will maintain an asset register. The asset register will include information on:
- (a) economic asset lives and remaining asset lives underlying the Capital Base at the Commencement Date;
 - (b) asset components (i.e. asset types and asset quantities) consistent with the regulatory Capital Base at the Commencement Date. The asset components should be consistent with those used in ActewAGL's Access Arrangement Information; and
 - (c) new capital expenditure incurred after the Commencement Date including information on economic asset lives and asset quantities.

Database of capital contributions

- 4.5 ActewAGL will maintain a database that records the following information in relation to capital contributions (as defined in the National Gas Rules) made to ActewAGL:
- (a) the amount of a capital contribution made by a User in respect of new capital expenditure;
 - (b) the amount of any charges paid by a User which exceeds the charges that would apply under a Reference Tariff for a Reference Service (or in relation to another Service under the Equivalent Tariff) where the excess is paid by the User in relation to the funding of new capital expenditure;

- (c) the date that the capital contribution is made under clause 4.5(a) or the charges are paid under clause 4.5(b);
- (d) the name of the User and the User's contact details; and
- (e) a description of the new capital expenditure in relation to which the capital contribution is made under clause 4.5(a) or the charges are paid under clause 4.5(b).

Surcharges

- 4.6 ActewAGL will notify the Relevant Regulator of any proposed surcharge in respect of capital expenditure that does not satisfy the requirements of rule 79 of the National Gas Rules (referred to in those Rules as non-conforming capital expenditure) as contemplated by rule 83(1) of the National Gas Rules.
- 4.7 ActewAGL may charge Users the Surcharge approved by the Relevant Regulator where permitted to do so by the National Gas Rules.
- 4.8 ActewAGL will not roll any amount that is, or is to be, recovered by means of a Surcharge into the Capital Base.

5. Fixed principles

National Gas Rules

5.1 The following are fixed principles for the purposes of rule 99 of the National Gas Rules:

- (a) the principles set out in section 0 other than those in clause 3.2 are fixed for the purposes of this Access Arrangement Period and the Next Access Arrangement Period;
- (b) the principle regarding the calculation of Capital Base set out in clause 4.3 is fixed for this Access Arrangement Period and the Next Access Arrangement Period;
- (c) the principle in clause 7.16 (that costs associated with Cost Pass Through Events in the Access Arrangement Period in respect of this Access Arrangement which are not passed through in that Access Arrangement Period may be passed through in the Next Access Arrangement Period) is fixed for this Access Arrangement Period and the Next Access Arrangement Period;
- (d) the principle in clauses 6.29 to 6.31 is fixed for this Access Arrangement Period and the Next Access Arrangement Period; and
- (e) any other principle expressly stated in this Access Arrangement to be a fixed principle for the purposes of rule 99 of the National Gas Rules.

6. Return on debt and averaging period nomination

Return on Debt formula

6.1 The return on debt for each Financial Year of this Access Arrangement Period is to be calculated as follows:

- (a) For Financial Year 2016-17: $kd_{2016-17} = T_{2016-17}$;
- (b) For Financial Year 2017-18: $kd_{2017-18} = (0.9 \times T_{2017-18}) + (0.1 \times R_{2017-18})$;
- (c) For Financial Year 2018-19: $kd_{2018-19} = (0.8 \times T_{2018-19}) + (0.1 \times R_{2017-18}) + (0.1 \times R_{2018-19})$;
- (d) For Financial Year 2019-20: $kd_{2019-20} = (0.7 \times T_{2019-20}) + (0.1 \times R_{2017-18}) + (0.1 \times R_{2018-19}) + (0.1 \times R_{2019-20})$;
- (e) For Financial Year 2020-21: $kd_{2019-20} = (0.6 \times T_{2019-20}) + (0.1 \times R_{2016-17}) + (0.1 \times R_{2017-18}) + (0.1 \times R_{2018-19}) + (0.1 \times R_{2019-20})$.

where:

kd_t is the return on debt for Financial Year t of this Access Arrangement Period;

$T_{2016-17}$ is [TBC] per cent;

$T_{2017-18}$ is [TBC] per cent;

$T_{2018-19}$ is [TBC] per cent;

$T_{2019-20}$ is [TBC] per cent;

$T_{2020-21}$ is [TBC] per cent; and

R_t is the annual return on debt observation for each Financial Year t of this Access Arrangement Period (other than Financial Year 2016-17), calculated in accordance with clauses 6.2 to 6.9.

Calculation of the annual return on debt observation

6.2 The set of Independent Data Sources with relevant data available during the nominated averaging period is to be identified as comprising all sources of published yield information for corporate bonds which are well recognised and used by market practitioners, and which publish information on estimated yields for corporate bonds in the BBB credit rating band up to at least a seven year term to maturity for at least one Business Day during the nominated averaging period. For the avoidance of doubt this may include:

- (a) the Bloomberg BBB BVAL curve;
- (b) the RBA aggregate measures of Australian BBB corporate bond yields; and

- (c) any other sources of published yield information for corporate bonds which are well recognised and used by market practitioners,

to the extent that each of these sources provides yield information for corporate bonds in the BBB credit rating band up to at least a seven year term to maturity, for at least one Business Day during the nominated averaging period.

6.3 For each Independent Data Source with relevant data available during the nominated averaging period, estimated yield data is to be sourced for the BBB credit rating band at each available maturity up to ten years, for each Business Day during the nominated averaging period, by:

- (a) where the Independent Data Source provides data on estimated yields for the BBB credit rating band for maturities up to and including ten years for each Business Day of the nominated averaging period, yield estimates for each Business Day are to be directly sourced from the Independent Data Source;
- (b) where the Independent Data Source does not provide data on estimated yields for the BBB credit rating band for all Business Days during the nominated averaging period, yield estimates for those Business Days for which data is not provided are to be calculated by linear interpolation; and
- (c) where the Independent Data Source does not provide data on estimated yields for the BBB credit rating band at a ten year term to maturity, an estimate of the ten year yield is to be determined in accordance with each of the extrapolation methodologies set out in Schedule 9 (the SAPN and AER methodologies). Where an Independent Data Source has been extrapolated using two different extrapolation methodologies, each extrapolation is to be treated as a separate Independent Data Source for the purposes of clauses 6.4 and 6.7 to 6.8 below.

6.4 Where there is more than one Independent Data Source with relevant data available during the nominated averaging period a simple average of yield estimates from each Independent Data Source will be calculated for each term to maturity up to ten years for which yield estimates are available. This simple average is to be treated as a separate Independent Data Source for the purposes of clauses 6.7 to 6.8 below.

6.5 The annual return on debt observation for each Financial Year of this Access Arrangement Period (other than Financial Year 2016-17) is to be calculated as the annualised yield estimate for a BBB-rated corporate bond with term to maturity of 10 years from the Best Fit Independent Data Source, determined in accordance with clauses 6.7 to 6.8, averaged over the nominated averaging period for that Financial Year.

6.6 The nominated averaging period to be used for the purpose of calculating the annual return on debt observation for each Financial Year of this Access Arrangement Period (other than Financial Year 2016-17) is to be determined in accordance with clauses 6.10 to 6.16.

Determination of the Best Fit Independent Data Source

6.7 The Best Fit Independent Data Source for each nominated averaging period is to be determined as follows:

- (a) a sample of bonds is to be formed for the nominated averaging period, comprising all bonds for which there are yield observations available from the

Bloomberg BVAL pricing source for each Business Day of the averaging period, and which have the following characteristics:

- (i) issued by an entity or entities domiciled in Australia;
- (ii) issued in Australian dollars, United States dollars, Euros or British pounds;
- (iii) issued by corporations in any industry, excluding sovereign entities, regional and local government entities, government agencies, supranational entities and government development banks; and
- (iv) have a credit rating from Standard & Poor's of BBB-, BBB or BBB+ on the final day of the averaging period.

For the avoidance of doubt, the bond sample is not otherwise limited and includes bonds:

- (v) of any coupon type, including fixed and floating rate bonds;
 - (vi) with and without embedded options, including but not limited to call options, put options and options to convert; and
 - (vii) of any issue size;
- (b) for each bond in the sample, the average observed yield across the nominated averaging period is to be calculated using the Bloomberg BVAL pricing source, with the following adjustments:
- (i) for bonds with embedded options, option adjusted yields are to be derived by adding interest rate swaps interpolated to the maturity of the bond to the option adjusted spreads sourced from the Bloomberg BVAL pricing source ;
 - (ii) for bonds issued in United States dollars, Euros or British pounds, yields are to be converted to Australian dollar equivalents by use of interest rate swaps and cross-currency basis swaps in a methodology that is well accepted within the finance industry;
- (c) for each Independent Data Source with relevant data available during the nominated averaging period (including the simple average of yield estimates from each Independent Data Source calculated in accordance with clause 6.4, a sum of the weighted squared differences across all the bonds in the relevant bond sample will be calculated as follows:
- (i) for each bond in the relevant bond sample, a corresponding estimated yield at the bond's average time to maturity is to be calculated using linear interpolation across Business Days;
 - (ii) for each bond in the relevant bond sample, the squared difference between the average observed yield of the bond (sourced in accordance with clause 6.7(b)) and the corresponding estimated yield from the Independent Data Source (interpolated to the same maturity in accordance with clause 6.7(c)(i) is to be calculated;

- (iii) the squared difference for each bond in the relevant bond sample is to be weighted using a Gaussian kernel with a mean of 10 years and a standard deviation of 1.5 years. For the avoidance of doubt, the weight for each bond i with years to maturity m_i , will be determined using the formula below with $m=10$ and $\sigma=1.5$:

$$w_i = \frac{1}{\sqrt{2\pi}\sigma} e^{-\frac{(m_i-m)^2}{2\sigma^2}}$$

- (iv) for each Independent Data Source, the sum of the weighted squared differences across all the bonds in the relevant bond sample is to be calculated; and
- (d) the Best Fit Independent Data Source will be the Independent Data Source with the lowest sum of weighted squared differences.

6.8 For the purposes of applying clause 6.7, all yield data is to be sourced on an annualised basis. Where a data source publishes yield estimates or observations for a nominated averaging period on a semi-annual basis, these estimates are to be converted to annualised yields in accordance with the following formula:

$$R_{ia} = \left(1 + \frac{R_{is}}{2}\right)^2 - 1$$

where:

R_{ia} is the annualised yield; and

R_{is} is the semi-annual yield.

Annual return on debt observation where relevant data not available

6.9 For any Financial Year of this Access Arrangement Period, with the exception of the Financial Year 2016-17, for which an annual return on debt observation cannot be calculated in accordance with clauses 6.2 to 6.6, due to either:

- (a) no Independent Data Sources with relevant data being available during the nominated averaging period; or
- (b) no bonds meeting the criteria for compilation of the bond sample, as set out in clause 6.7(a), during the nominated averaging period; or
- (c) bond yield data not being available from the BVAL pricing source during the nominated averaging period,

the annual return on debt observation for that Financial Year will be equal to the annual return on debt observation for the previous Financial Year of this Access Arrangement Period.

Notification of averaging period nomination

- 6.10 ActewAGL must submit an Averaging Period Notice to the Relevant Regulator for the purposes of calculating the annual return on debt observation for each Financial Year of this Access Arrangement Period, other than Financial Year 2016-17.
- 6.11 The Averaging Period Notice must nominate the averaging period to be used for calculating the annual return on debt observation for the relevant Financial Year.
- 6.12 The Averaging Period Notice must be lodged with the Relevant Regulator on or before the 30 April, or next closest Business Day, prior to the start of the Financial Year in which the nominated averaging period occurs.
- 6.13 The averaging period must:
- (a) be a period of at least 10 consecutive Business Days; and
 - (b) fall entirely within the Financial Year immediately prior to the Financial Year for which it is to be used to calculate the annual return on debt observation.

Relevant Regulator review of Averaging Period Notice

- 6.14 Within 20 Business Days of ActewAGL submitting an Averaging Period Notice under clauses 6.10 to 6.13, the Relevant Regulator must notify ActewAGL of its determination as to whether it agrees to the nominated averaging period.
- 6.15 The Relevant Regulator must not withhold agreement to the nominated averaging period, unless either:
- (a) the Averaging Period Notice does not comply with either of clauses 6.11 or 6.12; or
 - (b) the nominated averaging period does not comply with clause 6.13.
- 6.16 If the Relevant Regulator does not make a determination within the time limit fixed by clause 6.14, the Relevant Regulator is taken to have agreed to the nominated averaging period.

Default averaging period notice

- 6.17 If ActewAGL does not submit an Averaging Period Notice in accordance with clauses 6.10 to 6.13, then the averaging period will be the first 10 Business Days of the Financial Year immediately prior to the Financial Year for which it is to be used to calculate the annual return on debt observation.

Notification and Relevant Regulator determination of the annual return on debt observation

- 6.18 Within 20 Business Days of the commencement of a Financial Year for which an annual return on debt observation is to be calculated, ActewAGL must notify the Relevant Regulator of its calculation of the annual return on debt observation for that Financial Year.
- 6.19 The notification to the Relevant Regulator of ActewAGL's calculation of the annual return on debt observation is to take the form of a written statement which specifies:

- (a) the annual return on debt observation; and
 - (b) the basis for calculation of the annual return on debt observation.
- 6.20 Within 40 Business Days of ActewAGL notifying the Relevant Regulator of its calculation of the annual return on debt observation, the Relevant Regulator must notify ActewAGL of its determination as to whether it considers the calculation is consistent with clauses 6.2 to 6.6 or clause 6.9 as relevant. The Relevant Regulator's notification under this clause must specify:
- (a) whether the Relevant Regulator approves ActewAGL's calculation of the annual return on debt observation; and
 - (b) where the Relevant Regulator does not approve ActewAGL's calculation:
 - (i) the Relevant Regulator's reasons for withholding approval for ActewAGL's calculation of the annual return on debt observation; and
 - (ii) the Relevant Regulator's calculation of the annual return on debt observation, which it considers to be consistent with clauses 6.2 to 6.6 or clause 6.9, as relevant.
- 6.21 The Relevant Regulator must not withhold approval for ActewAGL's calculation of the annual return on debt observation, unless the calculation is inconsistent with clauses 6.2 to 6.6 and clause 6.9.
- 6.22 Subject to clause 6.23:
- (a) the period in clause 6.20 may be extended (by giving written notice to ActewAGL) to account for the time taken by the Relevant Regulator to obtain information from ActewAGL, obtain expert advice or consult about the notification;
 - (b) if the Relevant Regulator is satisfied that the making of a determination pursuant to clause 6.20 involves issues of such complexity or difficulty that the time limit fixed by clause 6.20, as extended by clause 6.22(a) above, should be further extended, the Relevant Regulator may extend that time limit by a further period provided it has given written notice to ActewAGL of that extension not later than 10 Business Days before the expiry of that time limit.
- 6.23 Notwithstanding clause 6.22, there is an absolute time limit of 90 Business Days from the date of ActewAGL's notification under clause 6.18 for the Relevant Regulator to make a determination pursuant to clause 6.20.
- 6.24 If the Relevant Regulator does not make a determination within the time limit fixed by clause 6.20 (if relevant, as extended by clause 6.22 or clause 6.23), then the Relevant Regulator is taken to have approved ActewAGL's calculation of the annual return on debt observation.

Update to X factors for updated return on debt

- 6.25 Following a determination of the Relevant Regulator under clauses 6.18 to 6.24 in relation to the annual return on debt observation for any of the Financial Years 2017-18, 2018-19 or

2019-20, ActewAGL must use the annual return on debt observation that is approved or specified in the determination to update X factors in accordance with clauses 6.25 to 6.28.

6.26 X factors for Financial Years three to five of this Access Arrangement Period will be updated as follows:

- (a) following a determination in relation to the annual return on debt observation for Financial Year 2017-18, the X factor for Financial Year 2018-19 will be updated by recalculating the return on debt for Financial Year 2017-18 in accordance with clause 6.1(b) and replacing the return on debt for Financial Year 2017-18 and each subsequent Financial Year of this Access Arrangement Period in the PTRM with this recalculated value;
- (b) following a determination in relation to the annual return on debt observation for Financial Year 2018-19, the X factor for Financial Year 2019-20 will be updated by recalculating the return on debt for Financial Year 2018-19 in accordance with clause 6.1(c) and replacing the return on debt for Financial Year 2018-19 and each subsequent Financial Year of this Access Arrangement Period in the PTRM with this recalculated value;
- (c) following a determination in relation to the annual return on debt observation for Financial Year 2019-20, the X factor for Financial Year 2020-21 will be updated by recalculating the return on debt for Financial Year 2019-20 in accordance with clause 6.1(d) and replacing the return on debt for Financial Year 2019-20 and each subsequent Financial Year of this Access Arrangement Period in the PTRM with this recalculated value.

6.27 Updating of X factors under clauses 6.25 to 6.28 must be designed to re-equalise (in terms of present values):

- (a) forecast revenue from the Reference Service over this Access Arrangement Period; and
- (b) the portion of Total Revenue allocated to the Reference Service for this Access Arrangement Period.

6.28 Where the X factor for a Financial Year has been updated in accordance with clauses 6.25 to 6.28, this updated X factor must be applied for the purposes of varying Reference Tariffs for that Financial Year in accordance with clause 7.

True up for return on debt in Financial Year five of this Access Arrangement Period

6.29 Following a determination of the Relevant Regulator under clauses 6.18 to 6.24 in relation to the annual return on debt observation for Financial Year 2020-21, the return on debt for Financial Year 2020-21 will be recalculated in accordance with clause 6.1(e), and a revenue true up amount will be calculated as the difference between:

- (a) the present value of unsmoothed forecast revenue from the Reference Service across all Financial Years of this Access Arrangement Period, calculated using the PTRM, with the return on debt for the 2020-21 Financial Year in the PTRM being set equal to the return on debt for Financial Year 2020-21, recalculated in accordance with clause 6.1(e); and

- (b) the present value of smoothed forecast revenue from the Reference Service across all Financial Years of this Access Arrangement Period, calculated using the PTRM, with the return on debt for the 2020-21 Financial Year in the PTRM being set equal to the return on debt for Financial Year 2019-20, calculated in accordance with clause 6.1(d).
- 6.30 The revenue true up amount calculated in accordance with clauses 6.29 to 6.31 must be added to the present value of Total Revenue to be recovered from reference services in the Next Access Arrangement Period. For this purpose, the revenue true up amount must be expressed in equivalent terms to the present value of Total Revenue for the Next Access Arrangement Period.
- 6.31 Present value amounts are to be calculated under clauses 6.29 to 6.31 by applying a pre-tax real weighted average cost of capital, calculated in accordance with the PTRM.

7. Variations to Reference Tariffs

Varying reference tariffs within this Access Arrangement Period

- 7.1 The Initial Reference Tariffs for the Reference Service are set out in the Reference Tariff Schedule (Schedule 3). These will apply on and from the Commencement Date, until varied in accordance with this section 7.
- 7.2 ActewAGL may vary Reference Tariffs at any time during this Access Arrangement Period with the approval of the Relevant Regulator in accordance with this section 7. Such variations may be effected through, without limitation:
- (a) Reference Tariff components, elements or variables comprised within any Reference Tariff;
 - (b) the introduction of a new Tariff Class and/or Tariff Category;
 - (c) the withdrawal (with or without grandfathering for existing customers) of any Tariff Class and/or Tariff Category; or
 - (d) any combination of these changes.

Annual Reference Tariff variation mechanism: Haulage Reference Tariffs

- 7.3 Where ActewAGL proposes to vary Reference Tariffs to apply from the start of the next Financial Year, the mechanisms set out below in clause 7.4 will apply.
- 7.4 ActewAGL may propose to vary Reference Tariffs (including any component of those Reference Tariffs) subject to compliance with:
- (a) the following tariff basket price control formula:

$$(1 + CPI_t)(1 - X_t)(1 + A_t)(1 + PT_t) \geq \frac{\sum_{x=1}^n \sum_{y=1}^m p_t^{xy} q_{t-2}^{xy}}{\sum_{x=1}^n \sum_{y=1}^m p_{t-1}^{xy} q_{t-2}^{xy}}$$

where ActewAGL has n Reference Tariffs and each Reference Tariff has up to m tariff components; and

- (b) the following side constraint formula applying to each Tariff Class:

$$(1 + CPI_t)(1 - X_t)(1 + A_t)(1 + PT_t)(1 + 0.1) \geq \frac{\sum_{x=1}^b \sum_{y=1}^a p_t^{xy} q_{t-2}^{xy}}{\sum_{x=1}^b \sum_{y=1}^a p_{t-1}^{xy} q_{t-2}^{xy}}$$

where ActewAGL has b Reference Tariffs within each Tariff Class and each of those Reference Tariffs has up to a tariff components,

and where for the purposes of each of the formulae above:

- t is the Financial Year for which the Tariffs are being set;
- P_t^{xy} is the proposed Tariff for component y of Reference Tariff x in Financial Year t , i.e. the new Tariff to apply from the commencement of Financial Year t ;
- P_{t-1}^{xy} is the Tariff for component y of Reference Tariff x that is being charged in Financial Year $t-1$ at the time the Variation Notice is submitted to the Relevant Regulator for assessment or, for the purposes of scaling by the Relevant Regulator in accordance with clause 7.24, at the time that scaling process commences;
- Q_{t-2}^{xy} is the quantity of component y of Reference Tariff x that was sold in Financial Year $t-2$;
- CPI_t is, for Financial Year t :
- (i) the CPI for the December quarter immediately preceding the start of Financial Year t ; divided by
 - (ii) the CPI for the December quarter immediately preceding the December quarter referred to in paragraph (i);
 - (iii) minus one,
- provided that if the Australian Bureau of Statistics does not, or ceases to, calculate and publish the CPI, then in this Access Arrangement CPI will mean an inflation index or measure agreed between the Relevant Regulator and ActewAGL;
- X_t means the X factor for Financial Year t , determined in accordance with the PTRM, updated for the return on debt in accordance with clauses 6.25 to 6.28;
- A_t is the automatic adjustment factor for Financial Year t calculated in accordance with section 1 of Schedule 4; and
- PT_t is the cost pass through factor for Financial Year t calculated in accordance with clause 2.5 of Schedule 4.

Intra-year Reference Tariff variation mechanism

- 7.5 ActewAGL can propose to vary Reference Tariffs during a Financial Year to apply at a date prior to the start of the next Financial Year, including for the purposes of passing-through an amount relating to a Cost Pass Through Event, as long as ActewAGL complies with the tariff basket price control formula set out in clause 7.4, and making such adjustments as necessary to vary the Reference Tariffs for the remainder of the Financial Year.

Cost Pass Through Events

- 7.6 For the purposes of this Access Arrangement, a "**Cost Pass Through Event**" means an event that is any one or more of the following:
- (a) a Regulatory Change Event;
 - (b) a Service Standard Event;
 - (c) a Short Term Trading Market Event;
 - (d) a Supply Curtailment Event;
 - (e) a General Pass Through Event;
 - (f) an Insurance Cap Event;
 - (g) an Insurer Credit Risk Event;
 - (h) a Terrorism Event;
 - (i) a Natural Disaster Event; and/or
 - (j) a Network User Failure Event.

Application process for seeking a Cost Pass Through

- 7.7 If, as a result of a Cost Pass Through Event, there is an Administrative Cost Impact on ActewAGL:
- (a) if it wishes to do so, ActewAGL may seek the approval of the Relevant Regulator to pass through any associated Change in Costs; and
 - (b) the Relevant Regulator may require ActewAGL to pass through any associated Change in Costs.
- 7.8 If a Cost Pass Through Event which will or is likely to have an Administrative Cost Impact occurs, or is likely to occur, ActewAGL must notify the Relevant Regulator within 90 Business Days of becoming aware of that occurrence, or likelihood, by providing a written statement specifying the details of the Cost Pass Through Event and the date on which it occurred or is likely to occur. For the avoidance of doubt, notification under this clause 7.8 is not an application to vary the Reference Tariffs.
- 7.9 Where the Change in Cost associated with the Cost Pass Through Event is known (or able to be estimated to a reasonable extent), then the Change in Cost shall be notified to the Relevant Regulator together with the notification specified in clause 7.8.
- 7.10 Where the Change in Cost associated with the Cost Pass Through Event is not known in whole or in part (or not able to be estimated to a reasonable extent) such that the Change in Cost cannot be included in the notification pursuant to clause 7.9, ActewAGL must provide a supplementary notice to the Relevant Regulator setting out the Change in Cost, as soon as practicable after the Change in Cost is known or can be estimated to a reasonable extent.

- 7.11 Within 40 Business Days of ActewAGL notifying the Relevant Regulator of the Change in Cost associated with a Cost Pass Through Event (pursuant to either clause 7.9 or 7.10, as relevant), the Relevant Regulator must notify ActewAGL of its determination as to whether it considers a Cost Pass Through Event has occurred which has an Administrative Cost Impact. If the Relevant Regulator considers that a Cost Pass Through Event has occurred which has an Administrative Cost Impact, the Relevant Regulator's determination must set out the amount that it has determined should be passed through in Reference Tariffs in respect of that Cost Pass Through Event (**Determined Pass Through Amount**).
- 7.12 In making a determination pursuant to clause 7.11, the Relevant Regulator must take into account:
- (a) the matters and proposals set out in any statement given to the Relevant Regulator by ActewAGL under clauses 7.8 to 7.10;
 - (b) the Change in Costs associated with the Cost Pass Through Event, as given to the Relevant Regulator by ActewAGL pursuant to clauses 7.9 or 7.10 as relevant;
 - (c) the efficiency of ActewAGL's decisions and actions in relation to the risk of the Cost Pass Through Event, including whether ActewAGL has:
 - (i) failed to take any action that could reasonably have been taken in that would have prevented or substantially mitigated the Change in Cost associated with that Cost Pass Through Event; or
 - (ii) taken or omitted to take any action in response to the event, where such action or omission has materially increased the magnitude of the Change in Cost in respect of the Cost Pass Through Event;
 - (d) the time cost of money based on the WACC for ActewAGL;
 - (e) the need to ensure that ActewAGL only recovers any actual or likely Change in Costs to the extent that such increment is solely as a consequence of a Cost Pass Through Event;
 - (f) whether the Change in Costs associated with the Cost Pass Through Event have already been factored into the calculation of ActewAGL's Total Revenue, including in the calculation of the automatic adjustment factor; and
 - (g) any other factors the Relevant Regulator considers relevant and consistent with the National Gas Law and National Gas Rules.
- 7.13 The period set out in clause 7.11 for making a determination pursuant to that clause may be extended by the Relevant Regulator, up to an absolute maximum of 90 Business Days:
- (a) by the time taken by the Relevant Regulator to obtain information from ActewAGL, obtain expert advice or consult about the notification in order to make a determination; and/or
 - (b) if the Relevant Regulator is satisfied that the making of a determination involves issues of such complexity or difficulty that the time limit should be extended and it has given written notice to ActewAGL of that extension not later than 10 Business Days before the expiry of the period set out in clause 7.11 as previously extended under this clause 7.13.

- 7.14 If the Relevant Regulator does not make a determination within the time limit fixed by clause 7.11 (if relevant, as extended by clause 7.13) then:
- (a) in the case of a Cost Pass Through Event which results in an increase in costs, the Relevant Regulator is taken to have determined that the amount to be passed through is the amount set out in ActewAGL's notification; and
 - (b) in the case of a Cost Pass Through Event which results in a decrease in costs, the Relevant Regulator is taken to have determined that the amount to be passed through is zero.
- 7.15 Following the Relevant Regulator's determination pursuant to clause 7.11 or clause 7.14, ActewAGL may, in the case of an event which increases costs and must, in the case of an event that decreases costs, include some or all of that amount in any Variation Notice.

Inter-period treatment of Cost Pass Through Events

- 7.16 Where a Cost Pass Through Event occurs in the Access Arrangement Period in respect of this Access Arrangement and the increase or decrease in costs associated with the Event is not passed through in Reference Tariffs in that Access Arrangement Period and is not included as part of the Total Revenue in the decision of the Relevant Regulator for, or its recovery provided for by any automatic adjustment factor to apply in, the Next Access Arrangement Period:
- (a) where the Relevant Regulator has made a decision as to the amount that should be passed through as a consequence of the Cost Pass Through Event prior to the end of the Access Arrangement Period in respect of this Access Arrangement, ActewAGL may, in the case of an Event which increases costs, and must, in the case of an Event which decreases costs, include some or all of that amount in any Variation Notice submitted in the Next Access Arrangement Period;
 - (b) where the timing of the Cost Pass Through Event was such that it was notified to the Relevant Regulator but the Relevant Regulator had not made a decision on the amount that should be passed through as a consequence of the Cost Pass Through Event before the end of the Access Arrangement Period in respect of this Access Arrangement, the Relevant Regulator must make a decision pursuant to this Access Arrangement on the amount that should be passed through in respect of that Event in the Next Access Arrangement Period. Following the Relevant Regulator's decision (pursuant to this Access Arrangement), ActewAGL may, in the case of an Event which increases costs, and must, in the case of an Event which decreases costs, include some or all of that amount in any Variation Notice submitted in the Next Access Arrangement Period; and
 - (c) where the timing of the Cost Pass Through Event was such that it was not notified to the Relevant Regulator in the Access Arrangement Period in respect of this Access Arrangement, ActewAGL may, in the case of an Event which increases costs, and must, in the case of an Event which decreases costs, notify the Relevant Regulator of the Event and make an application to pass through the increase or decrease in costs associated with that Event during the Next Access Arrangement Period. The notification by ActewAGL and Relevant Regulator's decision is to be made in accordance with the procedure set out in this Access Arrangement, but applying the relevant thresholds for an administrative cost impact in the access arrangement that applies for the Next Access Arrangement Period. Following the Relevant Regulator's decision, ActewAGL may, in the

case of an Event which increases costs, and must, in the case of an Event which decreases costs, include some or all of that amount in any Variation Notice submitted in the Next Access Arrangement Period.

Annual Variation Notice

- 7.17 If ActewAGL proposes to vary one or more Reference Tariffs to apply from the start of the next Financial Year, ActewAGL will submit a Variation Notice to the Relevant Regulator on or before the 15 March, or next closest Business Day, prior to the commencement of the next Financial Year that:
- (a) includes a proposed revised Reference Tariff Schedule;
 - (b) states the effective date of the proposed variation;
 - (c) demonstrates and explains how the proposal complies with the annual Reference Tariff variation mechanism specified in clause 7.4;
 - (d) includes a statement to support the gas quantity inputs in the annual Reference Tariff variation mechanism. The statement will be independently audited or verified and the gas quantity input must reflect the most recent actual Financial Year quantity available at the time of submitting the Variation Notice; and
 - (e) sets out any Determined Pass Through Amount ActewAGL proposes to pass through in whole or in part from the commencement of the next Financial Year.

Intra-year Variation Notice

- 7.18 If ActewAGL proposes in any Financial Year to vary one or more Reference Tariffs to apply at a date prior to the start of the next Financial Year, ActewAGL will submit a Variation Notice to the Relevant Regulator at least 50 Business Days prior to the date upon which it intends the varied Reference Tariffs to come into effect, that:
- (a) includes a proposed revised Reference Tariff Schedule;
 - (b) states the effective date of the proposed variation;
 - (c) demonstrates and explains how the proposal complies with the intra-year Reference Tariff variation mechanism, as set out in clause 7.5;
 - (d) includes a statement to support the gas quantity inputs in the Reference Tariff variation mechanism. The statement will be independently audited or verified and the gas quantity input must reflect the most recent actual Financial Year quantity available at the time of submitting the Variation Notice; and
 - (e) if the intra-year variation is for the purposes of passing through an amount relating to a Cost Pass Through Event, sets out any Determined Pass Through Amount ActewAGL proposes to pass through in whole or in part.

Variation Notice assessment

- 7.19 Within 30 Business Days of receiving ActewAGL's Variation Notice, the Relevant Regulator will inform ActewAGL in writing of whether or not it has approved the proposed variation(s)

to Reference Tariffs in ActewAGL's Variation Notice as compliant with the relevant Reference Tariff variation mechanism(s).

- 7.20 The Relevant Regulator must approve the proposed variation(s) to Reference Tariffs if they are compliant with the relevant Reference Tariff variation mechanism(s).
- 7.21 The 30 Business Day period may be extended (by giving written notice to ActewAGL) to account for the time taken by the Relevant Regulator to obtain further information from ActewAGL about the Variation Notice, obtain expert advice or to consult about the Variation Notice. There is an absolute time limit of 50 Business Days for the Relevant Regulator to complete the assessment of a Variation Notice.
- 7.22 If the Relevant Regulator fails to provide ActewAGL with written notification of its decision within 50 Business Days of receiving ActewAGL's Variation Notice, the Relevant Regulator will be deemed to have approved the variation proposed in the Variation Notice.
- 7.23 If the Relevant Regulator declines to approve any part of the proposal in the Variation Notice, the Relevant Regulator must provide ActewAGL with a written statement of reasons for that decision at the time it informs ActewAGL of its decision.
- 7.24 In the event that:
- (a) ActewAGL does not submit proposed Reference Tariffs to apply from the start of the next Financial Year t in accordance with the procedure set out in clause 7.17; or
 - (b) the Relevant Regulator decides that any part of the proposal in an annual Variation Notice is not compliant with the relevant Reference Tariff variation mechanism for a new Financial Year t ,

the Relevant Regulator will determine the Reference Tariffs for the Financial Year t that are compliant with the annual Reference Tariff variation mechanism by scaling all Reference Tariffs for Financial Year $t-1$, in the case of clause 7.24(a) above, or in the case of clause 7.24(b) those Reference Tariffs applicable in Financial Year $t-1$ in respect of which the Relevant Regulator has disallowed ActewAGL's proposed variations for Financial Year t through application of the following formula:

$$(1 + CPI_t)(1 - X_t)(1 + A_t)(1 + PT_t)$$

where CPI_t , X_t , A_t and PT_t are as defined in clause 7.4.

- 7.25 For an intra-year Reference Tariff variation the Relevant Regulator will vary Reference Tariffs consistent with clause 7.5.
- 7.26 In the event that the Relevant Regulator decides that any part of the proposal in an intra-year Variation Notice is not compliant with clause 7.5, the Reference Tariffs will not be varied.
- 7.27 If a Determined Pass Through Amount is passed-through in Reference Tariffs under an intra-year variation, this amount is excluded from consideration for the purposes of calculating PT_t for any annual Reference Tariff variation proposed for the next Financial Year.

Revised Reference Tariff Schedule

- 7.28 Where Reference Tariffs are varied in accordance with this clause 7, ActewAGL will publish a revised Reference Tariff Schedule on ActewAGL's website (which will replace the previously published version).
- 7.29 The revised Reference Tariff Schedule, including the changed Reference Tariffs, will take effect from the date specified in that revised Reference Tariff Schedule.

Other relevant matters

- 7.30 Where a clerical mistake, an accidental slip or omission, or a miscalculation, has been identified in the determination of Reference Tariffs to apply in Financial Year t-1 in accordance with this clause 7, that mistake, slip, omission or miscalculation may be corrected in determining the Reference Tariff for Financial Year t in accordance with this clause 7.
- 7.31 For the avoidance of doubt:
- (a) to the extent the calculation of a Reference Tariff or component, element or variable of a Reference Tariff is based on a forecast or estimate, the fact that the actual amount of the parameter being forecast or estimated is different to the forecast or estimated amount does not constitute a mistake, slip, omission or miscalculation for the purposes of clause 7.30;
 - (b) to the extent ActewAGL may have over or under recovered revenue as a consequence of a mistake, slip, omission or miscalculation being made in relation to the setting of a tariff that has been approved by the Relevant Regulator, no adjustment may be made to the Reference Tariffs or component, element or variable of a Reference Tariff under clause 7.30 to reflect any over or under recovery amount; and
 - (c) ActewAGL may submit in a Variation Notice, a correction for past clerical mistakes, accidental slips or omissions or miscalculations. The Relevant Regulator may also make ActewAGL aware that a past clerical mistake, accidental slip or omission or miscalculation has occurred and require all future tariff variation notifications to take account of that past clerical mistake, accidental slip or omission or miscalculation. ActewAGL may consult with the Relevant Regulator on past clerical mistakes, accidental slips or omissions or miscalculations.

8. Tariff Categories

Tariff Category Assignment

- 8.1 ActewAGL will assign each Delivery Point that receives a Haulage Reference Service with a Tariff Category in accordance with the tariff assignment criteria set out in the Reference Tariff Schedule. The Initial Tariff Categories are set out in the Reference Tariff Schedule.
- 8.2 The assigned Tariff Category will determine which Reference Tariffs are payable by a User or to be paid by a Prospective User for receipt of a Haulage Reference Service at a specific Delivery Point, in accordance with the Reference Tariff Schedule.
- 8.3 Where a Delivery Point is eligible for more than one Tariff Category in accordance with the tariff assignment criteria set out in the Reference Tariff Schedule, the User or Prospective User may nominate in its Request for Service the Tariff Category to which it wants its Delivery Point assigned. A completed Request must be submitted to ActewAGL at least 2 months' prior to the date in which the nominated Tariff Category is proposed to apply. ActewAGL will advise the User or Prospective User (as the case may be) whether the Delivery Point is eligible for the nominated Tariff Category within 2 months of receipt of a completed Request. If the Delivery Point is eligible for the nominated Tariff Category, the nominated Tariff Category will apply from the commencement of the month following the date of ActewAGL's confirmation of its eligibility. ActewAGL may refuse such a nomination by a User or Prospective User if it does not consider the Delivery Point to be eligible for the nominated Tariff Category.
- 8.4 On request, a User or Prospective User must provide ActewAGL with sufficient information to enable ActewAGL to apply the tariff assignment criteria set out in the Reference Tariff Schedule and assign each Delivery Point that receives a Haulage Reference Service with a Tariff Category.

Tariff Category Re-assignment

- 8.5 ActewAGL may re-assign a Delivery Point to one or more different Tariff Categories in accordance with the tariff assignment criteria set out in the Reference Tariff Schedule at any time where:
- (a) the Delivery Point has previously been wrongly assigned to a Tariff Category;
 - (b) the Delivery Point no longer qualifies for the assigned Tariff Category; or
 - (c) the Tariff Category has been withdrawn.
- 8.6 A User may nominate in its Request for Service the Tariff Category it wants its Delivery Point re-assigned:
- (a) at any time if it can demonstrate to ActewAGL's reasonable satisfaction that there has been a change in Energy requirements of an end customer(s) who is supplied with, and consumes, Energy at the premises served by the Delivery Point, in which case re-assignment may be requested based on that change; and
 - (b) for any other reason, but not more than once a Year in respect of the same Delivery Point.

- 8.7 ActewAGL will determine a User's Request for re-assignment of a Delivery Point in accordance with the tariff assignment criteria set out in the Reference Tariff Schedule. ActewAGL will inform the User of its decision in respect of the Request for re-assignment within 2 months of the receipt of the User's completed Request. If ActewAGL decides to re-assign a Delivery Point, the re-assignment will apply from the commencement of the month following the date of ActewAGL's decision. If ActewAGL decides not to re-assign a Delivery Point or decides to re-assign a Delivery Point to a Tariff Category other than that proposed by the User, ActewAGL must inform the User of its reasons for the decision.

9. Extensions/Expansions policy

Extensions of the high pressure network

- 9.1 If ActewAGL proposes a high pressure pipeline extension, it must advise the Relevant Regulator in accordance with clause 9.2 of this Access Arrangement.

For the purposes of this section 9, a "**high pressure pipeline extension**" is an extension to ActewAGL's Covered Pipeline with a direct connection to a transmission pipeline that provides reticulated gas to a new development or an existing development not serviced with reticulated gas.

The anticipated extension in the Australian Capital Territory from Belconnen across the Molonglo Valley to Phillip does not represent a high pressure pipeline extension for the purposes of this section 9.

- 9.2 A notification given by ActewAGL under clause 9.1 must:
- (a) be in writing;
 - (b) state whether ActewAGL intends for the proposed extension to be covered by the Access Arrangement;
 - (c) describe the high pressure pipeline extension and describe why the extension is being undertaken; and
 - (d) be given to the Relevant Regulator before the proposed high pressure pipeline extension comes into service.
- 9.3 ActewAGL is not required to advise the Relevant Regulator under clause 9.1 to the extent that the cost of the high pressure pipeline extension has already been included and approved by the Relevant Regulator in the calculation of Reference Tariffs.
- 9.4 Within 20 Business Days of receiving a notification under clause 9.1, the Relevant Regulator must notify ActewAGL:
- (a) of its decision on ActewAGL's proposed coverage approach for the high pressure pipeline extension; or
 - (b) whether the Relevant Regulator requires an extension of time including to allow further consultation with ActewAGL before making a decision.

Other extensions and expansions

- 9.5 Subject to clause 9.6, extensions to and expansions of the capacity of the Network carried out by ActewAGL which are not high pressure pipeline extensions for the purposes of clause 9.1 will be covered by this Access Arrangement.
- 9.6 Subject to clause 9.7, ActewAGL may notify the Relevant Regulator that an extension to or expansion of the capacity of the Network referred to in clause 9.5 will not be covered by this Access Arrangement. Notification under this clause 9.6 must be in writing and given to the Relevant Regulator before the extension or expansion comes into effect.

- 9.7 ActewAGL may not notify the Relevant Regulator under clause 9.6 to the extent that the cost of the extension or expansion has already been included in the calculation of Reference Tariffs.

Treatment of covered pipelines

- 9.8 If an extension or expansion is treated as a Covered Pipeline, ActewAGL will offer Reference Services for that extension or expansion at the Reference Tariffs (ie no change to the Reference Tariffs).

10. Capacity Trading policy

Transfer of Contracted Capacity for a Haulage Reference Service

- 10.1 A User may transfer all or any of its Contracted Capacity for a Haulage Reference Service to another User in accordance with the provisions of the Reference Service Agreement.

Transfer of Contracted Capacity for a Pipeline Service other than a Haulage Reference Service

- 10.2 A User may transfer all or any of its Contracted Capacity for a Pipeline Service other than a Haulage Reference Service to another User in accordance with the provisions of its Service Agreement to the extent those provisions are consistent with the capacity trading requirements in the National Gas Rules.

11. Changing Receipt and Delivery Points

Change of Receipt Point or Delivery Point for a Haulage Reference Service

- 11.1 A User may, with ActewAGL's consent, change the User's Receipt Point or Delivery Point for the delivery of a Haulage Reference Service in accordance with the provisions of the Reference Service Agreement.

Change of Receipt Point or Delivery Point for a Pipeline Service other than a Haulage Reference Service

- 11.2 A User may, with ActewAGL's consent, change the User's Receipt Point or Delivery Point for the delivery of a Pipeline Service other than a Haulage Reference Service in accordance with the provisions of its Service Agreement to the extent those provisions are consistent with the provisions governing the change of Receipt and Delivery Points by Users in the National Gas Rules.

ActewAGL's consent

- 11.3 ActewAGL must not withhold its consent under clause 11.1 or 11.2, as relevant, unless it has reasonable grounds, based on technical or commercial considerations, for doing so.

12. Queuing Policy

Forming a queue

- 12.1 Where ActewAGL receives a Request from a User or Prospective User, and there is insufficient capacity to satisfy the Request, a queue will be formed.
- 12.2 A queue will include all relevant Requests which cannot be satisfied. When the queue is formed, the following priorities will apply:
- (a) where an offer to provide a Service has been made in response to a Request received prior to formation of the queue, that Request will take first position in the queue;
 - (b) where a number of offers have been made in response to Requests received prior to the formation of the queue, those Requests will take positions in the queue according to the Priority Date of those Requests on a "first in, first served" basis, and will be ahead of any Requests for which offers have not been made at the time of the formation of the queue;
 - (c) other Requests made before the formation of the queue will take their positions in the queue according to the Priority Date of those Requests, on a "first in, first served" basis, but subject to clauses 12.11 and 12.12, and behind any Requests described in clauses 12.2(a) and 12.2(b) above; and
 - (d) subject to clauses 12.11 and 12.12, requests made after the formation of the queue will take their positions in the queue according to the Priority Date of those Requests on a "first in, first served" basis.
- 12.3 At the time a Request is placed in a new or existing queue, ActewAGL will advise a User or Prospective User of:
- (a) its position in the queue;
 - (b) the aggregate capacity sought by Requests which are ahead in the queue;
 - (c) its estimate of when capacity may become available; and
 - (d) the amount any Surcharge that may apply to Developable Capacity.
- 12.4 When the position of a Request changes relative to other Requests which are ahead in the queue (such as where a Request ceases to be in the queue) or where the timing of availability of a new tranche of Developable Capacity changes, ActewAGL will provide revised information to the User or Prospective User.
- 12.5 Where a Request is made for a Service to a Delivery Point and ActewAGL is satisfied that the Request is for the same tranche of capacity which is already provided to another User in respect of that Delivery Point, then ActewAGL may make that tranche of capacity available in response to the Request to the extent that the existing User is otherwise entitled to maintain or extend that tranche of capacity. That Request does not form part of the queue.

Conditions applicable on queue

- 12.6 Following a Prospective User's Request forming, or being added, to a queue:
- (a) the Prospective User may, by notice to ActewAGL, reduce but not increase the capacity sought in a Request which is in a queue;
 - (b) once every three months, ActewAGL may seek confirmation from the Prospective User that it wishes to continue with its Request. If the Prospective User fails to respond within 14 days, the Request will be deemed to have lapsed.
- 12.7 A Prospective User must advise ActewAGL if it does not wish to proceed with a Request that is in a queue, which will then lapse.
- 12.8 Any lapsed Request will be removed from the queue and priority will be lost.
- 12.9 A Prospective User may only assign a Request in a queue to a bona fide purchaser of the Prospective User's business and/or assets, subject to that purchaser being able to demonstrate, if requested by ActewAGL, its ability to meet all financial obligations and demonstrate credit worthiness pursuant to clause 28(e)(ii) of the Reference Service Agreement.
- 12.10 If there is a transfer of a controlling interest in the shares of the Prospective User that has a Request in a queue, ActewAGL may request that the transferee of those shares demonstrate its ability to provide security pursuant to clause 28 of the Reference Service Agreement in the event that an offer of capacity is made to the Prospective User. In the event the transferee fails to demonstrate that ability, ActewAGL may deem a Request to have lapsed.

Procedure when capacity can be made available

- 12.11 When capacity can be made available which meets in full or in part the requirements of any Request in a queue:
- (a) ActewAGL will advise each of those Users and Prospective Users of its plans to make capacity available, the capacity that is available, and the terms and conditions on which the capacity will be available;
 - (b) the available capacity will be progressively offered to each User and Prospective User in the queue in order of priority (notwithstanding that such capacity may not be sufficient to meet the needs of any such User or Prospective User); and
 - (c) a Prospective User will have 20 Business Days after an offer of capacity is made to enter into a Service Agreement (conditional, if necessary, on ActewAGL entering into Service Agreements with other Prospective Users), failing which:
 - (i) if the offer of capacity meets in full the requirements of a Request, that Request will lapse and lose priority to those entering into such a Service Agreement (upon that Service Agreement becoming unconditional); or
 - (ii) if the offer of capacity meets in part the requirements of the Request, the position of the Request in the queue will be held until capacity that meets the requirements of the Request in full is available, at which point the Request will be prioritised ahead of others in the queue that were received at a later date.

Priority of Prospective Users in obtaining Services

12.12 For the purposes of this Access Arrangement:

- (a) The Priority Date of a Request is the date a complete Request is received by ActewAGL.
- (b) Where ActewAGL determines that two or more Requests relate to the same tranche of capacity for the same Delivery Point, all those Requests will have the Priority Date of the earliest of those Requests.
- (c) A Request for a Service relating to less than 1 TJ of gas per annum will have priority over a Request for a Service relating to more than 1 TJ of gas per annum.
- (d) A Request for the Reference Service will have priority over a Request for a Negotiated Service.

Compensation for holding capacity

12.13 ActewAGL may require the User or Prospective User to pay compensation for ActewAGL agreeing to commence a Service more than 20 Business Days from the execution of a Service Agreement where the commitment of capacity to meet the requirements of the User or Prospective User contributes to:

- (a) the continuation of a queue;
- (b) the formation of a queue at any time prior to the commencement date for that Service; or
- (c) the acceleration of investment by ActewAGL to provide capacity for other Users on the transportation route.

General

12.14 A Request will not lapse and will retain its priority in a queue in the event of a dispute about that Request being notified, until that dispute has been resolved in accordance with the National Gas Law and National Gas Rules.

12.15 Where a queue exists, a Prospective User must on request demonstrate to ActewAGL that the Prospective User will have access to a supply of gas at the time it is anticipated by ActewAGL that the Prospective User will be offered access to the Service.

12.16 When administering a queue (including but not limited to forming a queue, assigning priority within a queue and determining when to or when not to offer capacity in response to a Request), ActewAGL may take into account a connection contract that ActewAGL has entered into, including a connection contract under Part 12A of the National Gas Rules. In that circumstance, the Priority Date of the corresponding Request will be the earlier of the date of the Request and the date on which the connection contract was made.

13. Liability

- 13.1 ActewAGL is not liable for, and a User or Prospective User will hold ActewAGL harmless from and against, any and all Loss in connection with or arising as a result of any request by a User or Prospective User, any delay in giving or failure to give consent by ActewAGL or any failure to agree any matter, under or in respect of this Access Arrangement, except to the extent that such Loss was caused by the negligence or wilful default of ActewAGL. For avoidance of doubt, this clause does not affect the ability of a User or Prospective User to seek to have a dispute resolved under the dispute resolution procedures in the National Gas Law and the National Gas Rules, unless the parties agree otherwise in writing.

SCHEDULE 1: DEFINITIONS

1.1 In this Access Arrangement:

Access Arrangement means this arrangement setting out terms and conditions for access to the Services provided by ActewAGL that is lodged with, and approved by, the Relevant Regulator under the National Gas Rules.

Access Arrangement Information means the information relating to this Access Arrangement and submitted by ActewAGL pursuant to Rule 42 of the National Gas Rules.

Access Arrangement Period for an applicable access arrangement has the meaning given to it in Rule 3 of the National Gas Rules and, in respect of a reference to "this Access Arrangement", means the period from the Commencement Date until the revision commencement date specified in clause 1.9 of this Access Arrangement.

ActewAGL means the owner of the Network from time to time, which at the Commencement Date is ActewAGL Distribution ABN 76 670 568 688 a partnership between Jemena Networks (ACT) Pty Limited ABN 24 008 552 663 and Icon Distribution Investments Limited ABN 83 073 025 224.

Administrative Cost Impact means that the Change in Cost (including both incurred and forecast amounts) in any relevant Financial Year, as a result of a Cost Pass Through Event occurring, is equal to or greater than 1 per cent of the smoothed forecast revenue for that Financial Year specified in the Relevant Regulator's final decision.

AER means the Australian Energy Regulator established by section 44AE of the *Competition and Consumer Act 2010* (Cth).

AEMC means the Australian Energy Market Commission established by section 5 of the *Australian Energy Market Commission Establishment Act 2004* (SA).

AEMO means the Australian Energy Market Operator (ACN 072 010 327).

AEMO Fee means any participant fee payable to AEMO.

Applicable Law means any legislation, subordinate legislation, licence code, rules, sub-code, guideline, safety case, order or regulation that applies to ActewAGL, the Network, the operation of the Network, and/or provision of services on the Network, whether specific to ActewAGL or regulating the gas industry or aspects of the gas industry more generally and includes the *Utilities Act 2000* (ACT), the *Utilities (Technical Regulation) Act 2014* (ACT), the *Gas Safety Act 2000* (ACT), the *National Gas (ACT) Act 2008* (ACT), the *National Gas (New South Wales) Act 2008* (NSW), the Minimum Network Standards, the *Gas Supply Act 1996* (NSW), the National Energy Retail Law and National Energy Retail Rules, any other applicable market, industry or technical code, any licence issued under the *Utilities Act 2000* (ACT), the *Utilities (Technical Regulation) Act 2014* (ACT) and the *Gas Supply Act 1996* (NSW).

Applicable Access Arrangement Period means the Access Arrangement Period to which the access arrangement using that term primarily applies.

Averaging Period Notice means the notice provided to the Relevant Regulator pursuant to clauses 6.10 to 6.13.

Base Year means the Financial Year of the Preceding Access Arrangement Period used by the Relevant Regulator as the base year for forecasting operating expenditure in the Applicable Access Arrangement Period.

Best Fit Independent Data Source means an Independent Data Source determined in accordance with clause 6.7.

Business Customer means a Customer who is not a Residential Customer.

Business Day has the meaning given to it in the National Gas Law.

Capital Base means the capital value to be attributed, in accordance with Part 9 of the National Gas Rules, to pipeline assets.

Carbon Costs means the costs incurred in connection with an obligation that is imposed under any Carbon Scheme, including without limitation any charges or fees payable in respect of greenhouse gas emissions, costs of acquiring permits, allowances, credits, or certificates, costs associated with undertaking activities to abate or sequester greenhouse gas emissions and costs associated with reducing liability under any Carbon Scheme.

Carbon Cost Factor Amount has the meaning given to it in clause 2.3 of Schedule 4.

Carbon Scheme means any law or regulation of the Commonwealth of Australia or of a State or Territory of Australia, with respect to the production or emission of, or to reduce, limit, cease, prevent, offset, remove or sequester greenhouse gas emissions.

Change in Cost in relation to a Cost Pass Through Event means the net decrease or increase in costs (as opposed to the revenue impact) that ActewAGL has incurred and is likely to incur in the provision of the Reference Service in any relevant Financial Year as a result of the Cost Pass Through Event.

Claim means any cause of action, liability, claim, proceeding, suit or demand of any nature however arising and whether present or future, fixed or unascertained, actual or contingent whether at law, in equity, under statute or otherwise and which any party may have against the other in connection with this Access Arrangement.

Commencement Date means the date referred to in clause 1.8 of this Access Arrangement.

Contracted Capacity refers to that part of the capacity of the Network which has been reserved by a User or Users pursuant to a Service Agreement with ActewAGL.

Cost Pass Through Event has the meaning given to it in clause 7.6.

Coverage Determination means a determination of a Relevant Minister under Chapter 3 Part 1 Division 1 of the National Gas Law.

Covered Pipeline means a pipeline forming part of the Network:

- (a) to which a Coverage Determination applies; or
- (b) deemed to be a Covered Pipeline by operation of section 126 and 127 of the National Gas Law.

Customer means:

- (a) the person who purchases the gas supplied at a Delivery Point; or
- (b) a consumer of hot water in a residential unit where hot water is supplied through a centralised gas-fired hot water system and whose Energy consumption is individually metered by ActewAGL to measure gas withdrawn at the relevant Delivery Point.

Delivery Point has the meaning given to it in the Reference Service Agreement.

Delivery Station has the meaning given to it in the Reference Service Agreement.

Determined Pass Through Amount has the meaning set out in clause 7.11.

Developable Capacity means the difference between the current capacity of a Covered Pipeline and the capacity of a Covered Pipeline which would be available if a new facility was constructed, but does not include any new capacity of a Covered Pipeline resulting from an extension to the geographic range of a Covered Pipeline.

ELMS has the meaning given to it in clause 1.6 of Schedule 7 of this Access Arrangement.

Embedded Network means a distribution system or a pipeline not owned and operated by ActewAGL, which is connected to and receives gas from the Network for the purpose of use by third parties.

Embedded Network Operator means the licensed owner or operator of an Embedded Network.

Energy means energy (or an energy source) in any form and includes natural gas, electricity or thermal energy in any form (for example, steam or hot water, and whether used for heating, cooling or some other purpose).

Energy Industry Levy means the levy imposed by section 54C of the *Utilities Act 2000* (ACT).

Equivalent Tariff refers to, in relation to a Service that is not a Reference Service, the Tariff that it is reasonably likely would have been set as the Reference Tariff had the Service been a Reference Service.

EWON means the Energy & Water Ombudsman NSW.

Financial Year means the 12-month period ending on 30 June in any year.

General Pass Through Event means an event that:

- (a) was not reasonably foreseeable at the time this Access Arrangement is approved by the Relevant Regulator under the National Gas Rules;
- (b) could not have been efficiently and economically insured against on reasonable commercial terms or self insured, at the time this Access Arrangement is approved by the Relevant Regulator under the National Gas Rules;
- (c) could not have been prevented, nor any increase in costs as a result thereof substantially mitigated, by ActewAGL using reasonable endeavours; and
- (d) does not fall within any other category of Cost Pass Through Event.

For the purposes of this definition, an event will be considered unforeseeable if, at the time the Relevant Regulator makes its final decision in respect of this Access Arrangement, regardless of whether the occurrence of the event was a possibility, there was no reasonable basis for the Relevant Regulator to conclude the event was more likely than not to occur during the Applicable Access Arrangement Period.

GJ means gigajoule.

GST has the meaning given in the *A New Tax System (Goods and Services) Tax Act 1999* (Cth).

Haulage Reference Service means the Service described in clause 2.3 and provided by ActewAGL in accordance with the Reference Service Agreement.

Haulage Reference Tariff or **Reference Tariff** means the tariff which relates to a Haulage Reference Service specified in Schedule 3 (the Reference Tariff Schedule) or as amended in accordance with section 7.

Hour has the meaning given to it in the Reference Service Agreement.

Independent Data Source means a data source published by a third party provider that shows yield information for corporate bonds.

Initial Reference Tariffs means the Reference Tariffs applying on and from the Commencement Date, until amended in accordance with clause 7 of this Access Arrangement.

Initial Tariff Categories means the Tariff Categories applying and from the Commencement Date, until amended in accordance with clause 7 of this Access Arrangement.

Insurance Cap Event means the occurrence of an event whereby:

- (a) ActewAGL makes a claim or claims under a relevant insurance policy that satisfies the conditions of insurance under that policy; and
- (b) ActewAGL incurs costs beyond the actual policy limit of the relevant insurance policy as a result of the event that gives rise to the relevant claim.

For the purposes of this definition:

- (c) A relevant insurance policy is an insurance policy held during the Applicable Access Arrangement Period or a previous period in which access to the Network was regulated; and
- (d) ActewAGL will be deemed to have made a claim on a relevant insurance policy if a claim is made by a related party of ActewAGL in relation to any aspect of the Network or ActewAGL's business.

Insurer Credit Risk Event means the occurrence of an event whereby an insurer becomes insolvent and, as a result, ActewAGL:

- (a) incurs higher or lower costs for insurance premiums than would have otherwise applied;

- (b) is subject to a materially higher or lower claim limit or a materially higher or lower deductible than would have otherwise applied under the relevant policy; or
- (c) incurs additional costs associated with self-funding an insurance claim, which would otherwise have been covered by the insolvent insurer.

Note for the avoidance of doubt, in making a determination on an Insurer Credit Risk Event pursuant to clause 7.11 of this Access Arrangement, the AER will have regard to, amongst other things:

- (d) the Service Provider's attempts to mitigate and prevent the event from occurring by reviewing and considering the insurer's track record, size, credit rating and reputation; and
- (e) in the event that a claim would have been made after the insurance provider became insolvent, whether the Service Provider had reasonable opportunity to insure the risk with a different provider.

Interconnection of Embedded Network Service means the Service described in clause 2.8 and Schedule 6.

Interval of Delay has the meaning given to it in rule 92(3) of the National Gas Rules.

IPART means the Independent Pricing and Regulatory Tribunal.

Large Customer has the meaning given to it in the National Energy Retail Law.

Load Shedding has the meaning given to it in clause 1.1(a) of Schedule 7 of this Access Arrangement.

Loss includes any Claim, damage, loss, cost, charge, expense or payment, including a payment ordered by a dispute resolution panel constituted under the National Gas Rules.

Maximum Daily Quantity or **MDQ** has the meaning given to it in the Reference Service Agreement.

Maximum Hourly Quantity or **MHQ** has the meaning given to it in the Reference Service Agreement.

Measuring Equipment has the meaning given to it in the Reference Service Agreement.

Minimum Network Standards means the Minimum Service Standards under the Utilities (Consumer Protection Code) Determination 2012, or any determination replacing that determination or if that determination is repealed and not replaced, ActewAGL Distribution's Minimum Standards for Network Operation adopted by ActewAGL in compliance with its licence requirements in the Australian Capital Territory and New South Wales, in force from time to time.

Minister means the Minister responsible for administering the *National Gas (ACT) Act 2008* (ACT), or the *National Gas (New South Wales) Act 2008* (NSW) as the case may be.

Month means calendar month.

National Gas Law means the National Gas Law adopted under the *National Gas (ACT) Act 2008* (ACT) or the *National Gas (New South Wales) Act 2008* (NSW) as applicable.

National Gas Objective has the meaning given to it in the National Gas Law.

National Gas Rules or **NGR** means the National Gas Rules made by the AEMC under the National Gas Law.

National Energy Retail Law means the National Energy Retail Law adopted under the National Energy Retail Law (South Australia) Act 2011 (SA).

Natural Disaster Event means any major fire, flood, earthquake or other natural disaster that increases the costs to the Service Provider in providing the Reference Service, provided the fire, flood or other event was not a consequence of the negligent acts or omissions of the Service Provider.

For the purposes of this definition, the term 'major' means an event that is serious and significant.

Note for the avoidance of doubt, in making a determination on a Natural Disaster Event pursuant to clause 7.11 of this Access Arrangement, the AER will have regard to, amongst other things:

- (a) whether the Service Provider has insurance against the event;
- (b) the level of insurance that an efficient and prudent service provider would obtain in respect of the event; and
- (c) whether a relevant government authority has made a declaration that a natural disaster has occurred.

Negotiated Service means a service for the transportation of gas on terms and conditions different to those applicable to the Reference Service or an Interconnection of Embedded Network Service.

Negotiated Service Agreement means a contract between ActewAGL and a User or Prospective User for the provision of a Negotiated Service.

Network means ActewAGL's Pipeline in the Australian Capital Territory, and Queanbeyan and Palerang in New South Wales.

Network User Failure Event means the occurrence of an event whereby a User becomes insolvent or is unable to continue to supply gas to its customers, and those customers are transferred to another User. Notwithstanding the definition of Change in Cost, the Change in Cost associated with a Network User Failure Event is deemed to:

- (a) include amounts that ActewAGL is entitled to be paid (but which are or will be unpaid as a result of a Network User Failure Event) for the provision of the Reference Service, including the revenue impact ActewAGL sustains or will sustain as a result of those unpaid amounts; and
- (b) exclude costs that could be the subject of a pass through amount pursuant to rule 531 of the National Gas Rules or section 167 of the National Energy Retail Law.

Next Access Arrangement Period means the Access Arrangement Period commencing immediately after this Access Arrangement Period.

Non-Reference Service means each of:

- (a) the Interconnection of Embedded Network Service; and
- (b) a Negotiated Service.

Operational Schedule means the Schedule to this Access Agreement entitled Operational Schedule.

Palerang means the area known as Palerang Local Government Area by proclamation under the *Local Government Act 1993* (NSW) formerly the City of Queanbeyan and Tallaganda Shire.

Pipeline has the meaning given to it in the National Gas Law.

Pipeline Service has the meaning given to it in the National Gas Law.

Preceding Access Arrangement Period means the Access Arrangement Period immediately prior to the Applicable Access Arrangement Period.

Priority Date means the date a complete Request is received by ActewAGL from a Prospective User.

Prospective User means:

- (a) a person who seeks or wishes to be provided with a Pipeline Service by means of the Network;
- (b) for the avoidance of doubt, a User is also a Prospective User if the User seeks or wishes to be provided with a Pipeline Service by means of the Network other than a Pipeline Service already provided to them under:
 - (i) a contract; or
 - (ii) an access determination.

Provision of Basic Metering Equipment Charge means an annual charge specified in Schedule 3 (the Reference Tariff Schedule).

PTRM means the revenue model that is used by ActewAGL to calculate Reference Tariffs for the Applicable Access Arrangement Period and as approved in the Relevant Regulator's final decision for the Applicable Access Arrangement Period.

Quantity has the meaning given to it in the Reference Services Agreement.

Queanbeyan means the area known as Queanbeyan City Council by proclamation under the *Local Government Act 1993* (NSW), formerly the City of Queanbeyan and Yarrowlunla Shire.

Queuing Policy has the meaning given to it in section 0 of this Access Arrangement.

Receipt Point has the meaning given to it in the Reference Service Agreement.

Receipt Point Pressures has the meaning given to it in Schedule 8 of this Access Arrangement.

Receipt Station has the meaning given to it in the Reference Service Agreement.

Reference Service means the Haulage Reference Service specified in clause 2.3.

Reference Service Agreement means the contract between ActewAGL and a User or Prospective User for the provision of the Reference Service as set out in Schedule 5.

Reference Tariff Schedule means the schedule of Reference Tariffs currently in place, as approved by the Relevant Regulator, being those in Schedule 3 of this Access Arrangement as amended from time to time in accordance with this Access Arrangement.

Regulatory Change Event means a change in a regulatory obligation or requirement that affects the manner in which the ActewAGL provides the Reference Service.

Relevant Minister has the meaning given to it in the National Gas Law.

Relevant Regulator has the meaning given to it in the National Gas Law and at the commencement of this Access Arrangement is the AER.

Relevant Tax means any Tax other than:

- (a) a tax in the nature of an income tax or a capital gains tax;
- (b) penalties, charges, fees and interest on late payments, or deficiencies in payments, relating to any Tax;
- (c) stamp duty, or similar taxes and duties;
- (d) the AEMO Fee, the Energy Industry Levy and the Utilities (Network Facilities) Tax; and
- (e) any Tax that replaces or is the equivalent of or similar to any of the taxes referred to above.

Request for Service or **Request** means a request for a Service, as described in Schedule 2 of this Access Arrangement.

Residential Customer means a Customer who consumes Energy principally for personal, domestic or household use.

Retail Market Procedures has the meaning given to it in the Reference Services Agreement.

Service means a service provided by ActewAGL in relation to the Network including the Reference Service.

Service Agreement means a contract between ActewAGL and a User or Prospective User for the provision of a Service.

Service Standard Event means a legislative or administrative act or decision that has the effect of:

- (a) varying the manner in which ActewAGL is required to provide the Reference Service; or
- (b) imposing, removing or varying the minimum service standards applicable to the Reference Service; or
- (c) altering the nature or scope of the Reference Service provided by ActewAGL.

Services Policy has the meaning given to it in section 2 of this Access Arrangement.

Short Term Trading Market means the market-based wholesale gas balancing mechanism established under Part 19 of the National Gas Rules.

Short Term Trading Market Event occurs if ActewAGL participates in the Short Term Trading Market, resulting in:

- (a) changes in costs that ActewAGL incurs directly or indirectly (including under statute or contract); or
- (b) the need to change services provided to accommodate the market, leading to additional costs.

Speculative Capital Expenditure Account has the meaning given to it in rule 84 of the National Gas Rules.

Subsequent Access Arrangement Period means the first Access Arrangement Period that commences after the Applicable Access Arrangement Period.

Supply Curtailment Event means the occurrence of a period when insufficient gas is delivered to ActewAGL's gas network due to reasons beyond ActewAGL's control, and gas cannot be supplied to meet demand requirements as represented by ActewAGL's forecasts used to derive the Reference Tariffs in this Access Arrangement, resulting in:

- (a) supply restrictions directed under the Utilities (Gas Restrictions) Regulations 2005 (ACT); and/or
- (b) widespread domestic load shedding, gas rationing or curtailment within ActewAGL's Network.

Surcharge has the meaning given to it in rule 83(2) National Gas Rules.

Tariff means a rate by which a charge for a Pipeline Service is calculated.

Tariff Category means each of the categories of Users of the Reference Service who are subject to particular Reference Tariffs described or specified in clause 2.4 of Schedule 3, as amended from time to time in accordance with section 7 of this Access Arrangement.

Tariff Class means each of the classes of Users of the Reference Service who are subject to particular Reference Tariffs described or specified in clause 2.3 of Schedule 3, as amended from time to time in accordance with section 7 of this Access Arrangement.

TJ means terajoule.

Tax means any royalty, duty, excise, tax, impost, levy, fee, assessment, penalty or other compliance cost or charge (including without limitation, any goods and services tax) imposed by the Commonwealth of Australia, any State or Territory of Australia, any local government or statutory authority or any other body (authorised by law to impose such an impost, tax or charge) on or in respect of the Network (or any part of it) or on or in respect of the operation, repair, maintenance, administration or management of the Network (or any part of it) or on or in respect of the provision of any Network Service (other than a levy, fee or charge that arises as a result of ActewAGL's breach of a law or failure to pay a tax or charge by the due date for payment).

Terrorism Event means an act (including, but not limited to, the use of force or violence, the threat of force or violence, attacks or other disruptive activities against, or the deliberate introduction of harmful code or viruses to, computer systems, computer networks, data and/or communication systems, or the threat of such attacks or disruptive activities, or of the deliberate introduction of such harmful code or viruses) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear). Note for the avoidance of doubt, in making a determination on a Terrorism Event pursuant to clause 7.11 of this Access Arrangement, the AER will have regard to, amongst other things:

- (a) whether the Service Provider has insurance against the event;
- (b) the level of insurance that an efficient and prudent service provider would obtain in respect of the event; and
- (c) whether a declaration has been made by a relevant government authority that a terrorism event has occurred.

Total Revenue is the amount determined in accordance with rule 76 of the National Gas Rules.

UAG means gas necessary to make up for gas lost or unaccounted for in the Network.

User means a person who:

- (a) is a party to a contract with ActewAGL under which ActewAGL provides or intends to provide a Pipeline Service to that person by means of the Network; or
- (b) has a right under an access determination to be provided with a Pipeline Service by means of the Network.

Utilities (Network Facilities) Tax means the "network facility tax" as defined in the *Utilities (Network Facilities Tax) Act 2006* (ACT).

Variation Notice means a notice submitted by ActewAGL to the Relevant Regulator under either clause 7.17 or clause 7.18.

Interpretation

- 1.2 Unless the contrary intention appears, a reference in this agreement to:

- (a) (**variations or replacement**) a document (including this agreement) includes any variation or replacement of it;
- (b) (**clauses, annexures, attachments and schedules**) a clause, annexure, attachment or schedule is a reference to a clause in or annexure or schedule to this agreement;
- (c) (**reference to statutes**) a statute, ordinance, code or other law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them;
- (d) (**law**) law means common law, principles of equity, and laws made by parliament (and laws made by parliament include State, Territory and Commonwealth laws and regulations and other instruments or codes under them, and consolidations, amendments, re-enactments or replacements of any of them);
- (e) (**singular includes plural**) the singular includes the plural and vice versa;
- (f) (**person**) the word "person" includes an individual, a firm, a body corporate, a partnership, joint venture, an unincorporated body or association, or any Government Agency;
- (g) (**executors, administrators, successors**) a particular person includes a reference to the person's executors, administrators, successors, substitutes (including persons taking by novation) and assigns;
- (h) (**two or more persons**) an agreement, representation or warranty in favour of two or more persons is for the benefit of them jointly and each of them individually;
- (i) (**jointly and severally**) an agreement, representation or warranty by two or more persons binds them jointly and each of them individually;
- (j) (**reference to a group of persons**) a group of persons or things is a reference to any two or more of them jointly and to each of them individually;
- (k) (**dollars**) Australian dollars, dollars, A\$ or \$ is a reference to the lawful currency of Australia;
- (l) (**calculation of time**) if a period of time dates from a given day or the day of an act or event, it is to be calculated exclusive of that day;
- (m) (**reference to a day**) a day is to be interpreted as the period of time commencing at midnight and ending 24 hours later;
- (n) (**accounting terms**) an accounting term is a reference to that term as it is used in accounting standards under the Corporations Act 2001 (Cth), or, if not inconsistent with those standards, in accounting principles and practices generally accepted in Australia;
- (o) (**meaning not limited**) the words "**include**", "**including**", "**for example**" or "**such as**" are not used as, nor are they to be interpreted as, words of limitation, and, when introducing an example, do not limit the meaning of the words to which the example relates to that example or examples of a similar kind;

- (p) **(next day)** if an act under this agreement to be done by a party on or by a given day is done after 5.30pm on that day, it is taken to be done on the next day;
- (q) **(next Business Day)** if an event under this agreement must occur on a stipulated day which is not a Business Day then the stipulated day will be taken to be the next Business Day; and
- (r) **(time of day)** time is a reference to Canberra time.

1.3 Headings are for convenience only and do not affect the interpretation of this Access Arrangement.

1.4 Footnotes form part of this Access Arrangement.

SCHEDULE 2: REQUESTS FOR SERVICE

1 Procedure for a Request for Service

- 1.1 In order to obtain access to a Negotiated Service or a Haulage Reference Service a Prospective User will observe the following requirements:
- (a) A Prospective User must lodge a Request and meet all financial obligations and demonstrate creditworthiness pursuant to clause 28(e)(ii) of the Reference Service Agreement. Where the MHQ is expected to exceed 6m³/Hour a Request must include as a minimum the level of detail envisaged by this Schedule 2. Where the MHQ is expected to be less than 6m³/Hour the Request must include such details as requested by ActewAGL from time to time.
 - (b) A Prospective User may have only one active Request in relation to the same tranche of capacity for a particular Delivery Point.
 - (c) ActewAGL will within the shortest reasonable time and in any event within 20 Business Days of receiving a complete Request, respond to the Request in accordance with rule 112 of the National Gas Rules.
 - (d) A Request will lapse unless, within 20 Business Days of ActewAGL advising that capacity is available for the Request, the Prospective User has either entered into a Reference Service Agreement or commenced bona fide negotiations to do so.¹
 - (e) Where there is sufficient capacity to meet a Request, there will be no queue.
 - (f) Where there is insufficient capacity to satisfy a Request, then a queue will be formed and the Queuing Policy will apply.

¹ A Request for Service will not lapse in the event of a dispute being notified under the National Gas Law until that dispute has been resolved in accordance with the National Gas Law.

REQUEST FOR SERVICE FORM

Sections 1, 2, 3, 4, and 5 must be completed for all Requests.

Sections 6 and 7 must be completed for additional or increased capacity at an existing site.

Sections 6, 7, 8, and 9 must be completed for new delivery points.

1. PROSPECTIVE USER INFORMATION

Name of Prospective User:

A.B.N
.....

Contact Officer

Position Title

Telephone

Email

Fax

Customer Contact Details:

Name

Position Title

Telephone

Email

Fax

2. RECEIPT POINT INFORMATION

Receipt Point Location

Entity supplying inlet gas

3. DELIVERY POINT INFORMATION

Delivery Point Business Name

A.B.N.
.....

Delivery Point Street Address

Postcode

Delivery Point is ... metres (N, S, E or W) from (nearest cross Street)

Delivery Point is located on the (N, S, E or W) side of the Street.

4. TRANSPORTATION INFORMATION

Service Requested	Haulage Reference Service/Negotiated Service
	Increase in MDQ or MHQ / change in Delivery Station characteristics

Service Commencement Date	
Duration of Services Agreement Sought	
ANZIC code(s)	
Gas Applications	
AQ (GJ/yr) Annual Quantity	
MDQ (GJ/gas day) Maximum Daily Quantity	
MHQ (GJ/hr) Maximum Hourly Quantity	

5. DELIVERY STATION PRESSURE

Delivery Station Pressure (kPa)

Metering pressure (1.38, 2.75, 5.0, 35, 100, if other please specify)

6. APPLIANCE & GAS LOAD INFORMATION

Appliance Type	Hourly Rate (MJ/hr)	Operating Capacity (%)	Hour/Day	Days/week	Weeks/year	Total Annual Quantity (TJ/yr)
Total						

Do any of these appliances have pilots or small flow rates? If so, which ones?

7. FUEL CONVERSION INFORMATION

(if applicable)

Current Fuel Type

Current Annual Consumption
(GJ/yr)

8. DELIVERY STATION INFORMATION

If the customer requires other than a standard single run meter set, please specify:	
Is the proposed meter set located indoors?	Y/N
Is a security compound required?	Y/N

9. DELIVERY STATION LOCATION SKETCH

Please provide a sketch showing the proposed location of the meter set and the following:

- length of customer service (path valve to meter set);
- surface restoration from front boundary to meter set;
- any walls to be pierced or other obstacle, eg stairs, retaining walls etc. to be negotiated;
- all buildings and any other permanent structures on the site;
- side and front building lines, and kerb line; and
- bearing (north).

SCHEDULE 3: INITIAL REFERENCE TARIFF SCHEDULE

1 Introduction

- (a) This Reference Tariff Schedule sets out the Initial Reference Tariffs that apply for the Reference Service under this Access Arrangement.
- (b) The Initial Reference Tariffs are expressed in real 2016/2017 dollars, and are exclusive of GST.
- (c) There may be more than one Initial Reference Tariff for the Reference Service.
- (d) The Initial Reference Tariffs available for the Reference Service depend upon the Initial Tariff Category assigned by ActewAGL to the Delivery Point to which the Reference Service will be provided.
- (e) In addition to setting out the Initial Tariff Categories and the Initial Reference Tariffs, this Reference Tariff Schedule sets out and explains the tariff components and assignment criteria used in determining the availability of different Initial Reference Tariffs.
- (f) The Initial Reference Tariffs will take effect from the Commencement Date and will apply until amended in accordance with section 7 of this Access Arrangement. When the Reference Tariffs are amended, the updated Reference Tariff Schedule will be published on ActewAGL's website.

2 Assignment criteria for a Tariff Category

2.1 Elements for Tariff Category assignment

- (a) ActewAGL determines the appropriate Tariff Category for a Delivery Point based on each of the following elements:
 - (i) customer groups;
 - (ii) Tariff Classes; and
 - (iii) the additional category assignment criteria specified in clause 2.4 below.
- (b) The assignment criteria for each relevant element must be satisfied in order for a Delivery Point to qualify for a particular Tariff Category.
- (c) Each Tariff Category is allocated a code which reflects the assignment criteria for each of the elements using the following format:

[G][TC][CAT]

where:

[G] is a single character defining the customer group (V for Volume or D for Demand). Customer groups are described in clause 2.2 below;

[TC] is a single character defining the Tariff Class (R for Residential or B for Business). Tariff Classes are described in clause 2.3 below;

[CAT] is a Tariff Category name or abbreviation. The assignment criteria for the Tariff Categories are described in clause 2.4 below.

2.2 Customer Group

- (a) The customer group that applies to a Delivery Point to which a Haulage Reference Service is provided is determined on the basis of the characteristics of the Energy requirements of the Customer and any other end customer that is supplied with, and consumes, Energy as a result of gas being delivered to that Delivery Point under that Haulage Reference Service.
- (b) The assignment criteria are as follows:
 - (i) **Demand Tariff:** A Delivery Point can be assigned a Demand Tariff customer group where:
 - a. all gas delivered to that Delivery Point is used on the premises to meet the production or Energy requirements of:
 - i. a single Business Customer occupying those premises;
 - ii. a Customer operating a centralised gas-fired electricity generation plant or system that supplies electricity and cogenerated thermal energy directly to a group of substantially non-residential end customers² occupying the same or nearby premises;³ or
 - iii. a single Customer operating a centralised gas-fired electricity generation plant or system that supplies electricity and cogenerated thermal energy directly to the Customer's premises;
 - b. the Quantity of gas withdrawn at that Delivery Point is reasonably expected to be equal to or greater than 10 TJ of gas per annum; and
 - c. ActewAGL has accurate and complete information to enable Load Shedding procedures to be implemented at the Delivery Point.

² As a guide, ActewAGL will consider a group of end customers to be substantially non-residential where less than 50% (by number of end customers) of the group use Energy principally for personal, domestic or household purposes.

³ In these circumstances, only the Delivery Point of the Customer would be recognised in ActewAGL's systems. Subsequent on-supply to end customers by that Customer would not be individually represented in ActewAGL's or retail market systems (subject to application of the exempt seller regime in the National Energy Retail Law).

- (ii) **Volume Tariff:** A Delivery Point can be assigned a Volume Tariff customer group where the Delivery Point does not satisfy the Demand Tariff customer group assignment criteria and all gas delivered to that Delivery Point is used on the premises to meet the production or Energy requirements of:
- a. a single Residential Customer;
 - b. a single Business Customer;
 - c. a Customer operating a centralised gas-fired electricity generation plant or system that supplies electricity and cogenerated thermal energy directly to a group of substantially residential end customers⁴ occupying the same or nearby premises⁵; or
 - d. a group of end customers (business and/or residential) occupying a single, multi-occupancy premises where gas is withdrawn by a single Customer at a single Delivery Point (other than as contemplated under the subparagraph c. above)⁶.

2.3 Tariff Classes

- (a) The Tariff Class that applies to a Delivery Point to which a Haulage Reference Service is provided is determined on the basis of the characteristics of the end customer that is supplied with, and consumes, Energy as a result of gas being delivered to that Delivery Point under that Haulage Reference Service.
- (b) The assignment criteria are as follows:
- (i) **Business Tariff Class:** A Delivery Point can be assigned a Business Tariff Class where all gas delivered to that Delivery Point is used on the premises to meet the production or Energy requirements of:
- a. a single Business Customer occupying those premises; or
 - b. a group of substantially non-residential end customers occupying those premises or nearby premises who are supplied electricity and cogenerated thermal energy

⁴ As a guide, ActewAGL will consider a group of end customers to be substantially residential where more than 50% (by number of end customers) of the group use Energy principally for personal, domestic or household purposes.

⁵ In these circumstances, only the Delivery Point of the Customer would be recognised in ActewAGL's systems. Subsequent on-supply to end customers by that Customer would not be individually represented in ActewAGL's or retail market systems (subject to application of the exempt seller regime in the National Energy Retail Law).

⁶ In these circumstances, only the Delivery Point of the Customer would be recognised in ActewAGL's systems. Subsequent on-supply to end customers by that Customer would not be individually represented in ActewAGL's or retail market systems (subject to application of the exempt seller regime in the National Energy Retail Law).

directly from a Customer operating a centralised gas-fired electricity generation plant or system.

- (ii) **Residential Tariff Class:** A Delivery Point can be assigned a Residential Tariff Class where the Delivery Point does not satisfy the Business Tariff Class assignment criteria.

2.4 Tariff Category

- (a) The Tariff Category that applies to a Delivery Point in respect of which a Haulage Reference Service is provided is determined on the basis of the customer group and Tariff Class that applies to that Delivery Point and the use of the gas delivered to that Delivery Point by means of the Haulage Reference Service.
- (b) Tariff Categories for the Demand Tariff customer group, and the corresponding category assignment criteria are as follows:

Abbreviation	Tariff Category	Criteria
DBC	Demand Business Capacity	This Tariff Category is used for Delivery Points which meet the Demand Tariff customer group and Business Tariff Class assignment criteria and have not been assigned to another Tariff Category.
DBT	Demand Business Throughput	Assignment to this Tariff Category is made upon User request. This Tariff Category is used for Delivery Points which meet the Demand Tariff customer group and Business Tariff Class assignment criteria.
DBG	Demand Business Large Scale Generation	Assignment to this Tariff Category is made upon User request. This Tariff Category is used for Delivery Points which meet the Demand Tariff customer group and Business Tariff Class assignment criteria, and which satisfy the following additional criteria: <ul style="list-style-type: none"> all gas is consumed on the premises by a Customer operating a gas-fired electricity generation plant or system that supplies electricity and cogenerated thermal energy directly to a group of substantially non-residential end customers⁷ occupying the same or nearby premises⁸; or

⁷

As a guide, ActewAGL will consider a group of end customers to be substantially non-residential where less than 50% (by number of end customers) of the group use Energy principally for personal, domestic or household purposes.

Abbreviation	Tariff Category	Criteria
		<ul style="list-style-type: none"> all gas is consumed on the premises by a single Customer operating a gas-fired electricity generation plant or system that supplies electricity and cogenerated thermal energy directly to the Customer's premises.

8

In these circumstances, only the Delivery Point of the Customer would be recognised in ActewAGL's systems. Subsequent on-supply to end customers by that Customer would not be individually represented in ActewAGL's or retail market systems (subject to the application of the exempt seller regime in the National Energy Retail Law).

(c) Tariff Categories for the Volume Tariff customer group and corresponding assignment criteria are as follows:

Abbreviation	Tariff Category	Criteria
VRI	Volume Residential Individual	<p>This Tariff Category is used for Delivery Points which meet the Volume Tariff customer group assignment criteria, and which satisfy the following additional criterion:</p> <ul style="list-style-type: none"> all gas withdrawn at the Delivery Point is measured by ActewAGL by individually metering the Energy consumption of the end customer(s) (including the consumption of hot water supplied through a centralised residential gas hot water system).
VRH	Volume Residential Individual (gas heating combined with other gas appliances)	<p>Assignment to this Tariff Category is made upon User request.</p> <p>This Tariff Category is used for Delivery Points which meet the Volume Tariff customer group assignment criteria, and which satisfy the following additional criteria:</p> <ul style="list-style-type: none"> all gas withdrawn at the Delivery Point is measured by ActewAGL by individually metering the Energy consumption of the end customer(s) (including the consumption of hot water supplied through a centralised residential gas hot water system); and the end customer uses gas at the Delivery Point for gas heating and other gas appliances or applications.
VRB	Volume Residential Boundary	<p>Assignment to this Tariff Category is made upon User request.</p> <p>This Tariff Category is used for Delivery Points which meet the Volume Tariff customer group assignment criteria, and which satisfy the following additional criteria:</p> <ul style="list-style-type: none"> all gas withdrawn at the Delivery Point is measured by ActewAGL using a single gas metering installation for all gas delivered to the Delivery Point (i.e. ActewAGL does not meter the Energy consumption of each individual end customers); and

Abbreviation	Tariff Category	Criteria
		<ul style="list-style-type: none"> the Delivery Point has not been assigned to a DBG or VRG Tariff Category.⁹
VBS	Volume Small Business	<p>Assignment to this Tariff Category is made upon User request.</p> <p>This Tariff Category is used for Delivery Points which meet the Volume Tariff customer group and Business Tariff Class assignment criteria, and which satisfy the following additional criterion:</p> <ul style="list-style-type: none"> all gas withdrawn at the Delivery Point is measured by ActewAGL by individually metering the Energy consumption of the end customer(s).
VBM	Volume Medium Business	<p>Assignment to this Tariff Category is made upon User request.</p> <p>This Tariff Category is used for Delivery Points which meet the Volume Tariff customer group and Business Tariff Class assignment criteria, and which satisfy the following additional criteria:</p> <ul style="list-style-type: none"> all gas withdrawn at the Delivery Point is measured by ActewAGL by individually metering the Energy consumption of the end customer(s); and the Quantity of gas withdrawn at that Delivery Point is reasonably expected to be equal to or more than 8 TJ of gas per annum.
VRG	Volume Residential Large Scale Generation	<p>Assignment to this Tariff Category is made upon User request.</p> <p>This Tariff Category is used for Delivery Points which meet the Volume Tariff customer group assignment criteria, and which satisfy the following additional criteria:</p> <ul style="list-style-type: none"> all gas is consumed on the premises by a Customer operating a gas-fired electricity generation plant or system that supplies electricity and

⁹

In these circumstances, only the Delivery Point of the Customer would be recognised in ActewAGL's systems. Subsequent on-supply to end customers by that Customer would not be individually represented in ActewAGL's or retail market systems (subject to application of the exempt seller regime in the National Energy Retail Law).

Abbreviation	Tariff Category	Criteria
		<p>cogenerated thermal energy directly to a group of substantially residential end customers¹⁰ occupying the same or nearby premises¹¹; and</p> <p>the Quantity of gas withdrawn at that Delivery Point is reasonably expected to be equal to or more than 50 TJ of gas per annum.</p>

- (d) Where a Delivery Point is eligible for more than one Tariff Category, the User or Prospective User can nominate the Tariff Category in accordance with clause 2.4 of this Schedule 3. For example, a User or Prospective User may request to be placed in the VRI, VRH or VBS Tariff Category. ActewAGL may refuse a nomination by a User or Prospective User if it does not consider the Delivery Point to be eligible for that Tariff Category.

¹⁰ As a guide, ActewAGL will consider a group of end customers to be substantially residential where more than 50% (by number) of the group use Energy principally for person, domestic or household purposes.

¹¹ In these circumstances, only the Delivery Point of the Customer would be recognised in ActewAGL's systems. Subsequent on-supply to end customers by that Customer would not be individually represented in ActewAGL's or retail market systems (subject to application of the exempt seller regime in the National Energy Retail Law).

3 Initial Tariff Categories and Tariff charge components for the Haulage Reference Service

- (a) A User must pay ActewAGL all charges applicable to the Haulage Reference Service provided based on the relevant Tariff Category.
- (b) The table below sets out the Tariff charge components applicable to each Tariff Category.
- (c) In addition, other charges are payable in accordance with the Reference Service Agreement.
- (d) Tariff charge components applicable to each Tariff Category

Tariff Category	Abbreviation	Haulage Reference Service -- Reference Tariff Components
Volume Residential Individual	VR I	Volume Throughput Rate (clause 4.1(c)) Fixed Charge (clause 4.1(e)) Ancillary Charges (clause 4.1(f))
Volume Residential Individual (gas heating combined with other gas appliances)	VRH	Volume Throughput Rate (clause 4.1(c)) Fixed Charge (clause 4.1(e)) Ancillary Charges (clause 4.1(f))
Volume Residential Boundary	VRB	Volume Throughput Rate (clause 4.1(c)) Fixed Charge (clause 4.1(e)) Ancillary Charges (clause 4.1(f))
Volume Residential Large Scale Generation	VRG	Demand Capacity Rate (clause 4.1(a)) Fixed Charge (clause 4.1(e)) Ancillary Charges (clause 4.1(f))
Volume Small Business	VBS	Volume Throughput Rate (clause 4.1(c)) Fixed Charge (clause 4.1(e)) Ancillary Charges (clause 4.1(f))
Volume Medium Business	VBM	Volume Throughput Rate (clause 4.1(c)) Fixed Charge (clause 4.1(e)) Ancillary Charges (clause 4.1(f))

Tariff Category	Abbreviation	Haulage Reference Service -- Reference Tariff Components
Demand Business Capacity	DBC	Demand Capacity Rate (clause 4.1(a)) Provision of Basic Metering Equipment Charge (clause 4.1(d)) Ancillary Charges (clause 4.1(f))
Demand Business Throughput	DBT	Demand Throughput Rate (clause 4.1(b)) Provision of Basic Metering Equipment Charge (clause 4.1(d)) Ancillary Charges (clause 4.1(f))
Demand Business Large Scale Generation	DBG	Demand Capacity Rate (clause 4.1(a)) Provision of Basic Metering Equipment Charge (clause 4.1(d)) Ancillary Charges (clause 4.1(f))

4 Initial Reference Tariffs

4.1 Haulage Reference Service

(a) Demand Capacity Rate

Tariff Category	Unit Rate – dollars per GJ of Chargeable Demand (CD) per annum (\$/GJ.CD.pa) Period ending 30 June 2017 Prices are real 2016-2017 GST exclusive dollars		
	First 50 GJ of CD	Next 100 GJ of CD	Remainder
VRG	305.235	300.248	296.258
	First 50 GJ of CD	Next 100 GJ of CD	Remainder
DBC	321.300	316.050	311.850
	First 40 GJ of CD	Next 80 GJ of CD	Remainder
DBG	315.000	299.250	262.500

(b) Demand Throughput Rate

Tariff Category	Demand Throughput Rate (\$/GJ) <i>Period ending 30 June 2017</i> Minimum chargeable quantity of 833GJ/month Prices are real 2016-2017 GST exclusive dollars
DBT	4.599

(c) Volume Throughput Rate

Tariff Category	Volume Throughput Rate (\$/GJ) <i>Period ending 30 June 2017</i> Prices are real 2016-2017 GST exclusive dollars			
Block size (GJ per month)	First 1.25 GJ	Next 13.45 GJ	Next 45.30 GJ	Remainder
Block size (GJ per quarter)	First 3.75 GJ	Next 40.35 GJ	Next 135.90 GJ	Remainder
VRI	12.403	7.742	7.332	7.178
Block size (GJ per month)	First 1.70 GJ	Next 6.20 GJ	Remainder	
Block size (GJ per quarter)	First 5.10 GJ	Next 18.60 GJ	Remainder	
VRH	6.932	6.607	6.560	
Block size (GJ per month)	First 37.50 GJ	Next 372.00 GJ	Remainder	
Block size (GJ per quarter)	First 112.50 GJ	Next 1116.00 GJ	Remainder	
VRB	12.403	7.742	7.332	
Block size (GJ per month)	First 2.50 GJ	Next 95.00 GJ	Remainder	
Block size (GJ per quarter)	First 7.50 GJ	Next 285.00 GJ	Remainder	
VBS	9.259	7.181	6.960	
	Minimum chargeable quantity of 666GJ/month for VBM			
Block size (GJ per month)	First 350.00 GJ	Next 400.00 GJ	Remainder	
VBM	6.746	5.583	5.118	

(d) Provision of Basic Metering Equipment Charges

Tariff Category	Standing Charge : \$/pa per Delivery Station Charges based on Delivery Point MHQ Period ending 30 June 2017 Prices are real 2016-2017 GST exclusive dollars				
		MHQ <16 GJ/hr	MHQ >=16 to <50 GJ/hr	MHQ >=50 to <100 GJ/hr	MHQ >= 100 GJ/hr
All Tariff Categories for the Demand Tariff customer group	Single Run	8,400	11,550	17,850	23,100
	Double Run	16,800	23,100	35,700	46,200

Tariff Category	Standing Charge : \$/pa per Delivery Point Period ending 30 June 2017 Prices are real 2016-2017 GST exclusive dollars	
All Tariff Categories for the Demand Tariff customer group	More than 15 Delivery Stations installed at the Delivery Point	\$1,995

(e) Fixed Charge

Tariff Category	Standing Charge – dollars per annum Period ending 30 June 2017 Prices are real 2016-2017 GST exclusive dollars
VRI	82.038
VRH	184.587
VRB	820.385
VRG	16800.000
VBS	133.313
VBM	2050.962

(f) Ancillary Charges

Ancillary Charges applicable to all Tariff Categories Period Ending 30 June 2017 Prices are real 2016-2017 GST exclusive dollars		
Fee Type	Description	Charge
Hourly Charge – non-standard User-initiated requests and queries	<p>The assessment of a User’s or Prospective User’s requirements, collation of information and provision of a response to a User or Prospective User in relation to non-standard requests and queries. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> • Large Customer connection or upgrade inquiries requiring additional investigation by ActewAGL due to the nature of the request; and • requests for measurement data additional to data provided in standard reports. <p>Not applicable to the processing of connections and alterations under Part 12A of the National Gas Rules.</p>	\$102.55, plus \$102.55 per hour after the first hour
Disconnection	<p>Disconnection of supply to a single Delivery Point at the request of the User or Customer in circumstances where the User or Customer requests that the meter is not to be moved or removed, and disconnection occurs in accordance with the relevant Applicable Law as in force at the Commencement Date.</p> <p>A request for disconnection is also a request to remove a Delivery Point from the User’s Service Agreement.</p> <p>The specific method of disconnection will be at the discretion of ActewAGL, to ensure the site is able to be left in a safe state.</p>	<p>Charges apply per meter set:</p> <p>(i) meter set with a capacity of less than or equal to 6m³/hr: \$150.00</p> <p>(ii) meter set with a capacity of greater than 6m³/hr: \$200.00</p>

Ancillary Charges applicable to all Tariff Categories Period Ending 30 June 2017 Prices are real 2016-2017 GST exclusive dollars		
Reconnection	<p>The subsequent reconnection made in accordance with the National Energy Retail Law or Rules as in force at the Commencement Date, the Reference Service Agreement, or in other circumstances (at ActewAGL's discretion, acting reasonably) where the Delivery Station components and pipework are still installed at the Delivery Point and can be re-energised without alteration or replacement.</p> <p>Reconnection in circumstances other than those described above and for Demand Customers would require a new connection and a new Request for Service to be made.</p>	<p>Charges apply per meter set:</p> <p>(i) meter set with a capacity of less than or equal to 6m³/hr: \$50.00</p> <p>(ii) meter set with a capacity of greater than 6m³/hr: \$60.00</p>
Decommissioning and meter removal	<p>Permanent decommissioning of a Delivery Point including the removal of the meter in circumstances where decommissioning and meter removal occurs in accordance with the relevant Applicable Law in force as at the Commencement Date.</p> <p>A request for decommissioning and meter removal is also a request to remove a Delivery Point from the User's Service Agreement.</p> <p>The specific method of disconnection will be at the discretion of ActewAGL, to ensure the site is able to be left in a safe state.</p> <p>Subsequent reconnection of the Delivery Point is not included. Reconnection would require a new connection and a new Request for Service to be made.</p>	<p>Charges apply per meter set:</p> <p>(i) meter set with a capacity of less than or equal to 6m³/hr: \$799.99</p> <p>(ii) meter set with a capacity of greater than 6m³/hr: \$1,369.97</p>

Ancillary Charges applicable to all Tariff Categories		
Period Ending 30 June 2017		
Prices are real 2016-2017 GST exclusive dollars		
Special Meter Reads	For meter reading requested by a User for a Delivery Point that is in addition to the scheduled ordinary meter reading comprised in the Haulage Reference Service (for instance, when the meter reader makes a special visit to read a particular meter out of the usual meter reading route or schedule). This service must be scheduled by the User with ActewAGL in accordance with the Retail Market Procedures.	\$20.00 per meter read

5 Grandfathering of Provision of Basic Metering Equipment Charges for more than 15 Delivery Stations installed at a Delivery Point

From the Commencement Date, the Provision of Basic Metering Equipment Charge for more than 15 Delivery Stations installed at a Delivery Point is only available for an existing Delivery Point that was considered to be eligible for this Reference Tariff in ActewAGL's revenue forecast for this Access Arrangement.

No other Delivery Points may qualify for this Reference Tariff from the Commencement Date.

ActewAGL Distribution will confirm whether this Reference Tariff is available to a particular Delivery Point in response to reasonable requests from Users or Customers.

SCHEDULE 4: REFERENCE TARIFF ADJUSTMENT FACTORS

1. Automatic adjustment factor (A)

$$A_t = \frac{(1 + A'_t)}{(1 + A'_{t-1})} - 1$$

where:

A'_{t-1} is:

1.1 zero when $t-1$ refers to Financial Years 2016/17 or 2017/18; and

1.2 the value of A'_t determined for the Financial Year $t-1$ for all other years;

and

A'_t is:

1.3 zero when t refers to Financial Year 2017/18; and

1.4 for all other years:

$$A'_t = \frac{(L_{t-2} + U_{t-2} + C_{t-2} + T_{t-2})[(1 + \text{realWACC}_t)^2 (1 + \text{CPI}_{t-1})]}{(1 - X_t) \sum_{x=1}^n \sum_{y=1}^m P_{t-1}^{xy} q_{t-2}^{xy}}$$

where:

L_{t-2} is the licence fee factor amount, as defined in this Schedule 4, for Financial Year $t-2$.

real WACC_t is the pre-tax real weighted average cost of capital for Financial Year t determined in accordance with the PTRM using the updated return on debt for Financial Year t determined in accordance with clauses 6.1 to 6.24;

U_{t-2} is the UAG factor amount, as defined in this Schedule 4, for Financial Year $t-2$;

C_{t-2} is the Carbon Cost factor amount, as defined in this Schedule 4, for Financial Year $t-2$;

T_{t-2} is the Relevant Tax factor amount for Financial Year $t-2$;

CPI_t has the same meaning as set out in clause 7.4;

CPI_{t-1} is the value of CPI_t determined for the Financial Year $t-1$;

X_t has the same meaning as set out in clause 7.4;

p_{t-1}^{xy} has the same meaning as set out in clause 7.4; and

q_{t-2}^{xy} has the same meaning as set out in clause 7.4.

2. Factor amounts

2.1 Licence fee factor amount

The licence fee factor amount for Financial Year t-2 is to be calculated as follows:

- (a) the actual cost incurred by ActewAGL as a result of any IPART, AEMO, EWON, Independent Competition and Regulatory Commission, Relevant Regulator or any other relevant regulator, authority or State or Commonwealth Government's authorisation fees, licence fees or statutory charges imposed on ActewAGL which is related to the ownership or operation of the Network in Financial Year t-2 including, without limitation, the AEMO Fee, the Energy Industry Levy and the Utilities (Networks Facilities) Tax,

minus

- (b) the forecast of the cost incurred by ActewAGL as a result of any IPART, AEMO, EWON, Independent Competition and Regulatory Commission Relevant Regulator or any other relevant regulator, authority or State or Commonwealth Government's authorisation fees, licence fees or statutory charges imposed on ActewAGL which is related to the ownership or operation of the Network included in the Relevant Regulator's relevant final decision for Financial Year t-2 including, without limitation, the AEMO Fee, the Energy Industry Levy and the Utilities (Network Facilities) Tax.

2.2 UAG factor amount

The UAG factor amount for Financial Year t-2 is to be calculated as follows:

- (a) the benchmark cost incurred by ActewAGL for purchases of gas as UAG, calculated as the product of:

- (i) gas receipts in gigajoules for Financial Year t-2;
- (ii) the UAG Cost for Financial Year t-2 in \$/gigajoule; and
- (iii) the UAG target rate of 1.96%,

minus

- (b) the forecast of the total UAG costs included in the Relevant Regulator's relevant final decision for Financial Year t-2.

Reference Tariffs will be adjusted in the event that total UAG costs cease to be a Network cost during the Access Arrangement Period.

The forecast UAG costs are as follows:

	2016/17	2017/18	2018/19	2019/20	2020/21
Forecast UAG Cost (\$M,	1.21	1.19	1.18	1.17	1.16

2014/15)					
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2.3 Carbon Cost factor amount

The Carbon Cost Factor Amount for Financial Year t-2 is to be calculated as follows:

- (a) the actual cost incurred by ActewAGL as a result of the operation of a Carbon Scheme for Financial Year t-2,

minus

- (b) the forecast of the cost incurred by ActewAGL as a result of the operation of a Carbon Scheme included in the Relevant Regulator's relevant final decision for Financial Year t-2.

2.4 Relevant Tax factor amount

The Relevant Tax factor amount for Financial Year t-2 is to be calculated as follows:

- (a) the actual cost incurred by ActewAGL in paying any Relevant Tax, for Financial Year t-2,

minus

- (b) the forecast of the cost incurred by ActewAGL in paying any Relevant Tax included in the Relevant Regulator's relevant final decision, for Financial Year t-2.

2.5 Cost Pass Through factor

$$PT_t = \frac{(1 + PT'_t)}{(1 + PT'_{t-1})} - 1$$

where:

PT'_{t-1} is:

- (a) zero when t-1 refers to Financial Year 2015/16; and
(b) the value of PT_t determined in the Financial Year t-1 for all other Financial Years in the Applicable Access Arrangement Period,

and

$$PT'_t = \frac{AP_t}{(1 + CPI_t)(1 - X_t)(1 + A_t) \sum_{x=1}^n \sum_{y=1}^m p_{t-1}^{xy} q_{t-2}^{xy}}$$

where:

AP_t is any Determined Pass Through Amount that ActewAGL proposes to pass through in whole or in part in Financial Year t adjusted include an amount to reflect the time value of money between incurring the costs and recovering the costs, and excludes any amounts already passed through in Reference Tariffs; and

CPI_t has the same meaning as set out in clause 7.4;

X_t has the same meaning as set out in clause 7.4;

A_t is the administrative adjustment factor for Financial Year t as defined in this Schedule 1;

P_{t-1}^{xy} has the same meaning as set out in clause 1 of this Schedule 4; and

q_{t-2}^{xy} has the same meaning as set out in clause 7.4.

SCHEDULE 5: REFERENCE SERVICE AGREEMENT

The terms and conditions for the Reference Service are set out in the separate Reference Service Agreement, 1 July 2016-30 June 2021. The Reference Service Agreement, 1 July 2016-30 June 2021 forms part of this Access Arrangement.

SCHEDULE 6: INTERCONNECTION OF EMBEDDED NETWORK SERVICE

ActewAGL ordinarily provides the Interconnection of Embedded Network Service specified in clause 2.8 of the Access Arrangement on the following terms and conditions.

1. Availability

- (a) The Interconnection of Embedded Network Service is available to any Embedded Network Operator to establish a single Delivery Point connected to an Embedded Network.
- (b) A Prospective User of an Interconnection of Embedded Network Service may request ActewAGL to provide and maintain an interconnection between a Delivery Point on the Network and a pipe or system of pipes constructed and operated by that Embedded Network Operator.

2. MDQ and MHQ

- (a) The Embedded Network Operator will be required to specify an annual quantity, MHQ and MDQ which fairly reflects the maximum annual, Hourly and Daily requirements at the Delivery Point, as well as the 24 hour profile of hourly flow based on prior consumption where that information is available.
- (b) ActewAGL's maximum obligation to deliver gas to the Delivery Point under Reference Service Agreements with all Users is the MHQ in any Hour and the MDQ on any Day specified by the Embedded Network Operator and agreed by ActewAGL.
- (c) In this clause:
 - (i) **Hour** means any period of 60 consecutive minutes, the first hour in a Day starting at 06:30h and **Hourly** has a corresponding meaning; and
 - (ii) **Daily** means a period of 24 consecutive Hours beginning at 06:30h.

3. Metering

- (a) ActewAGL will provide Measuring Equipment for the Delivery Point.
- (b) Measuring Equipment will be designed to accurately measure the quantities specified by the Embedded Network Operator and will provide daily meter reading.
- (c) The Measuring Equipment will be commissioned on the commencement of the first transportation service to the Embedded Network Delivery Point on behalf of any User.
- (d) The Measuring Equipment will be decommissioned when there is no agreement with any User under which a Service is provided to the Delivery Point.

4. Authorisation of Embedded Network

- (a) Conditions precedent to ActewAGL providing an Embedded Network Service will include the Embedded Network Operator:

- (i) having in place all relevant authorisations, approvals and licences required to operate the Embedded Network; and
 - (ii) entering into an agreement with ActewAGL for an Interconnection of Embedded Network Service.
- (b) For the avoidance of doubt, an Interconnection of Embedded Network Service is separate from and additional to a Service(s) requested by a User for the transportation of gas through the Network to the Embedded Network Delivery Point.

5. Delivery Station and Delivery Point

- (a) The location of the Embedded Network Delivery Point on the Network will be agreed by the Embedded Network Operator and ActewAGL. ActewAGL will only withhold its agreement to a location proposed by the Embedded Network Operator on the basis of legal, technical, operational or safety considerations.
- (b) The hot tap connection to connect the Delivery Station to the Network will be designed and constructed in accordance with ActewAGL's usual standards and requirements, including Australian Standard 2885.
- (c) The Delivery Station will comprise metering facilities sufficient to accurately measure the flow over the full range of anticipated flow conditions and will be designed and constructed in accordance with ActewAGL's usual standards and requirements, including Australian Standard 2885. If the hot tap connection is located at a point on the Network where the maximum allowable operating pressure is above 1,050kPa, the Delivery Station will include a remotely controlled isolation valve.
- (d) Unless otherwise specified by ActewAGL, the Delivery Point between the Network and the Embedded Network Operator's pipe or system of pipes will be at the flange immediately downstream of the Delivery Station described above.
- (e) All facilities upstream of the outlet flange of the Delivery Station will be designed, procured, constructed, installed, owned and operated by ActewAGL at the reasonable cost of the Embedded Network Operator.
- (f) All facilities downstream of the outlet flange of the Delivery Station will be the responsibility of the Embedded Network Operator.
- (g) Modifications to the Delivery Station and hot tap connection to the Network which are required:
 - (i) as a result of changes in law or applicable technical standards;
 - (ii) to enable enhanced measurement performance; or
 - (iii) as a result of changes in the flow conditions through the Embedded Network Delivery Point,

will be made by ActewAGL at the reasonable cost of the Embedded Network Operator unless ActewAGL has otherwise recovered the costs from Users of the Embedded Network Delivery Point.

6. Load Shedding

- (a) The Embedded Network Operator will be subject to Load Shedding arrangements. The Embedded Network Operator must have facilities available to it to reduce or discontinue the withdrawal of gas if called upon to do so.
- (b) Unless there is an agreement on Load Shedding between ActewAGL and the Embedded Network Operator, all load of the Embedded Network Operator will be subject to Load Shedding priority 2 as described in Schedule 7. Network transportation services for the delivery of gas to the Embedded Network Delivery Point will be subject to the same Load Shedding priority.
- (c) The Embedded Network Operator will participate in gas balancing arrangements if required.

7. Cathodic Protection of Facilities

- (a) The Embedded Network Operator must design, install, and operate, any cathodic protection system necessary to protect its Embedded Network at its own cost. Cathodic protection facilities must be installed in such a manner as to avoid any interference which may be detrimental to ActewAGL's facilities and must be electrically isolated from ActewAGL's facilities.

8. Installation and Operation

- (a) In the interests of safety and ensuring the integrity of ActewAGL's pre-existing facilities, the Embedded Network Operator must cooperate with ActewAGL to establish, in a timely manner, appropriate arrangements and procedures for the safe installation and operation of the Embedded Network Operator's facilities, and for the management of emergency situations involving those facilities and the Network.

9. Abandonment/Disconnection

- (a) In the event that facilities cease to be used to take gas at the Embedded Network Delivery Point then ActewAGL will, at the Embedded Network Operator's expense, ensure that the facilities are disconnected and isolated from ActewAGL's facilities. This requirement does not apply where the cessation of use is temporary.

10. Approvals and Indemnity

- (a) The Embedded Network Operator will provide ActewAGL with evidence that it has fulfilled all applicable statutory requirements and that it holds all necessary permits and licences in relation to its facilities downstream of the Embedded Network Delivery Point. That evidence must be provided before the commencement of any service to the Delivery Point, as well as subsequently, following ActewAGL's reasonable request.
- (b) The Embedded Network Operator will be liable for and indemnify ActewAGL against any Loss in relation to or arising out of those facilities, except to the extent that such Loss was caused by the negligence or wilful default of ActewAGL.

11. Charges

- (a) The following charges will be agreed between the Embedded Network Operator and ActewAGL:
- (i) Charge for engineering investigation;
 - (ii) Charge for provision of interconnection facilities;
 - (iii) provision of Measuring Equipment.

SCHEDULE 7: OPERATIONAL SCHEDULE

1. Load Shedding

1.1 Load Shedding Principles

- (a) Load Shedding is defined as a controlled interruption to, or reduction in, the delivery of gas to Delivery Points. If at any time for any reason there is, or ActewAGL reasonably believes or anticipates that there may be, a failure of supply or shortfall in supply in or to any part of the Network, ActewAGL is entitled to curtail or interrupt the receipt, transportation or delivery of gas and is entitled to implement Load Shedding.
- (b) Load Shedding includes the process of contacting Users and/or User's customer sites to notify them of a requirement to reduce or cease withdrawals of gas from the Network, and again when the requirements are lifted or relaxed. All Users of the Network and their Customers are required to participate in and comply with Load Shedding and the provision of ELMS data.
- (c) For prompt and effective responses during emergency events it is necessary for Users to take responsibility for notifying their customers to reduce Load to meet the Load Shedding requirements for each site. Contact of individual sites by ActewAGL is used to support and reinforce the site contact procedures where deemed necessary by ActewAGL to generate and monitor required levels and timeliness of User's customer responses.

1.2 Load Shedding Priorities

Load Shedding will be implemented by ActewAGL according to the following schedule of priorities:

Load Shedding Priority	Load Type
1	All interruptible Loads.
2	All Load at a Delivery Point which serves more than one customer or other end user, and where no arrangement exists between ActewAGL and the operator of the facilities beyond the Delivery Point for shedding loads served by those facilities.
3	All Load at sites where gas is not used for production.
4	All Load at sites where Load is transferable to an alternative fuel.
5	Load that may be reduced without damage to product or plant.
6	Load that may be halted without damage to product or plant.
7	Load where halting will cause product damage.

8	Load where halting will cause plant damage
9	Load not transferable to alternative fuel at hospital and essential service sites.
10	All Load at Volume Tariff Delivery Points expected to consume less than 10 TJ per annum (Residential, Commercial and Industrial).

1.3 Restoration of Service

Where feasible, permission to withdraw gas from the Network will be restored in reverse order to that in which Load Shedding was implemented.

1.4 Suspension

If a User fails to cease or reduce deliveries, withdrawals or taking of gas from the Network as requested by ActewAGL in accordance with these principles and their Reference Service Agreement (or fails to procure that withdrawals be ceased or reduced), ActewAGL may suspend the delivery of gas to any relevant Delivery Point.

1.5 Liability

ActewAGL will not be liable for any Losses incurred by the User and/or a User's customer arising from Load Shedding, where ActewAGL acts in accordance with the principles of this Access Arrangement in good faith except to the extent that such Losses were caused by the negligence or wilful default of ActewAGL.

1.6 Emergency Load Management Systems (ELMS)

- (a) ELMS are computer based systems used by ActewAGL as an aid in identifying, contacting and recontacting User's customer sites by ActewAGL in the event of a supply failure. Information held by ActewAGL relating to a User is available to the User upon request.
- (b) Site and Network information is maintained through ELMS, in consultation with Users, and is used as the basis of operational implementation of Load Shedding by ActewAGL.
- (c) Users must advise ActewAGL of the emergency contact details for User's Customers at Demand Customer delivery points and Delivery Points at which Negotiated Services are provided and must ensure that such contact details are current at all times for the purposes of ELMS.
- (d) Users must advise ActewAGL of the emergency contact details for the User to enable communication between ActewAGL and the User during Load Shedding. User emergency contact personnel must be available to assist ActewAGL during Load Shedding if required.
- (e) If during a Load Shedding event, or simulation of a Load Shedding event, ActewAGL determines that site or User's customer details have changed or do not match ActewAGL's records, ActewAGL may update its records on the basis of advice from the site or the User's Customer. The User may then confirm the contact information provided. This does not affect

the Users' obligation to provide accurate and current information in any way.

2. Establishment of Receipt Points

2.1 Receipt Points

- (a) Any person (including a User or Prospective User) seeking to interconnect with the Network for the purpose of enabling a User or Prospective User to deliver gas to the Network for onward transportation may seek to establish a new Receipt Point.
- (b) A new Receipt Point may only be established on the Network if ActewAGL consents to the proposed location of the new Receipt Point. ActewAGL will only withhold its consent to a proposed location of a new Receipt Point on the basis of technical, operational or safety considerations.
- (c) The person seeking to establish a new Receipt Point must enter into an agreement with ActewAGL covering, without limitation, the matters set out in clauses 2.2, 2.3 and 2.4.

2.2 Receipt Point and Equipment Upstream

- (a) The new Receipt Point, and the pipe or system of pipes upstream of the new Receipt Point, must comply with the following requirements in order to ensure that the integrity, safety and operating ability of the Network is not compromised:
 - (i) the new Receipt Point must have an associated Receipt Station (as described in the Reference Service Agreement);
 - (ii) to safeguard against the hazards of over pressurisation of the Network, the Receipt Station must be equipped with overpressure protection facilities in accordance with ActewAGL's usual standards and requirements, including Australian Standard 2885, at the expense of the person seeking to establish the new Receipt Point;
 - (iii) a remotely controlled isolation valve operable by ActewAGL must be installed at the outlet of the Receipt Station upstream of the new Receipt Point, at the expense of the person seeking to establish the new Receipt Point;
 - (iv) the new Receipt Point will be at the flange immediately upstream of the facilities described above, or as otherwise agreed by ActewAGL. All facilities upstream of the new Receipt Point will be the responsibility of the person seeking to establish the new Receipt Point;
 - (v) the operational mode of a Receipt Station for a new Receipt Point must be compatible with the operational mode of the Network;

- (vi) the hot tap connection to connect the facilities to the Network will be designed and constructed with ActewAGL's usual standards and requirements, including Australian Standard 2885, at the expense of the person seeking to establish the new Receipt Point;
- (vii) Modifications may be required to the Network and/or ActewAGL systems to integrate the new Receipt Point into the operation of the Network. Requirements will vary depending on the location of the new Receipt Point. The party seeking to establish the new Receipt Point will bear the reasonable costs of such modifications, whether identified before or after installation of the new Receipt Point unless ActewAGL can recover them from Users of the new Receipt Point.

2.3 Cathodic Protection of Facilities

The person seeking to establish the new Receipt Point must design, install, and operate, any cathodic protection system necessary to protect its facilities at its own cost. Cathodic protection facilities must be installed in such a manner as to avoid any interference which may be detrimental to ActewAGL's facilities and must be electrically isolated from ActewAGL's facilities.

2.4 Installation and Operation

In the interests of safety and ensuring the integrity of ActewAGL's pre-existing facilities, the person seeking to establish the new Receipt Point must cooperate with ActewAGL to establish, in a timely manner, appropriate arrangements and procedures for the safe installation and operation of the facilities described above, and for the management of emergency situations involving those facilities and the Network.

SCHEDULE 8: RECEIPT POINT PRESSURES

1. ActewAGL will notify Users of changes to the requirements set out in this Schedule 8, and publish the updated Schedule on its website. ActewAGL may also add minimum or maximum flow requirements for flow controlled Receipt Points.

Upstream pipeline (Allows receipt of gas from this asset, which does not form part of the Network)	Receipt Point	Minimum Receipt Pressure at the Receipt Point (kPa)	Maximum Receipt Pressure at the Receipt Point (kPa)	Areas of Network downstream of Receipt Point
Moomba to Sydney Pipeline (MSP)	Watson	2,400	6,895	The Network except Bungendore
Eastern Gas Pipeline (EGP)	Hoskinstown	8,000	14,895	The Network

SCHEDULE 9: EXTRAPOLATION METHODOLOGIES

1. AER extrapolation methodology

1.1 Extrapolation of the RBA data source using the AER extrapolation methodology

At each publication date, the RBA BBB yield at an effective tenor of 10 years is calculated as:

$$Yield_{10}^{RBA AER} = Yield_{10}^{RBA} + (10 - Tenor_{10}) * \frac{(Spread_{10} - Spread_7)}{(Tenor_{10} - Tenor_7)}$$

Where:

$Yield_{10}^{RBA AER}$

is the extrapolated RBA BBB yield at the effective 10 year tenor using the AER methodology;

$Yield_{10}^{RBA}$

is the RBA BBB yield estimate at the target 10 year tenor;

$Spread_{10}$

is the RBA's estimated spread to swap at the target 10 year tenor;

$Spread_7$

is the RBA's estimated spread to swap at the target 7 year tenor;

$Tenor_{10}$

is the effective tenor associated with the RBA's estimated spread to swap at the target 10 year tenor; and

$Tenor_7$

is the effective tenor associated with the RBA's estimated spread to swap at the target 7 year tenor.

1.2 Extrapolation of the BVAL data source using the AER extrapolation methodology

(a) Calculation of the BVAL 10 year yield extrapolated yield

The BVAL 10 year yield extrapolated yield using the AER methodology is given by:

$$Yield_{10}^{BVAL AER} = Yield_T^{BVAL} + (Yield_{10}^{RBA AER} - Yield_T^{RBA AER})$$

Where:

$Yield_{10}^{BVAL AER}$

is the extrapolated BVAL yield at the effective 10 year tenor using the AER methodology;

T

is the longest available tenor of 10 years or less at which the Bloomberg BVAL curve reports fair value yields.

$Yield_T^{BVAL}$

is the Bloomberg BVAL fair value yield for tenor T ;

$Yield_{10}^{RBA AER}$

is the extrapolated RBA BBB yield at the effective 10 year tenor, extrapolated using the AER methodology in accordance with 1.1 above; and

$Yield_T^{RBA AER}$

is the RBA BBB yield estimate at effective tenor T , calculated in accordance with paragraph (b) below.

(b) Calculation of the RBA yield at effective tenor T

The RBA BBB yield at effective tenor T is calculated as:

$$Yield_T^{RBA AER} = Yield_T^{RBA} + (T - Tenor_T) * \frac{(Spread_{T_{high}} - Spread_{T_{low}})}{(Tenor_{T_{high}} - Tenor_{T_{low}})}$$

Where:

T

is the longest available tenor of 10 years or less at which the Bloomberg BVAL curve reports fair value yields;

T_{low}

is the target tenor associated with the highest effective tenor available from RBA data that is lower than T . If no effective tenor is lower than T then T_{low} is the lowest target tenor from RBA data. Notwithstanding this, if T is greater than all RBA effective tenors then T_{low} is equal to the second highest effective tenor available from RBA data;

T_{high}

is the target tenor associated with the lowest effective tenor available for RBA data that is higher than T . If no effective tenor is higher than T then T_{high} is equal to the highest target tenor from RBA data. Notwithstanding this, if T is less than all RBA effective tenors then T_{high} is equal to the second lowest effective tenor available from RBA data;

$Yield_T^{RBA}$

is the RBA BBB yield for target tenor T ;

$Tenor_T$ is the effective tenor associated with target tenor T ;

$Spread_{T_{high}}$ is the RBA's estimated spread to swap at target tenor T_{high} ;

$Spread_{T_{low}}$ is the RBA's estimated spread to swap at target tenor T_{low} ;

$Tenor_{T_{high}}$ is the effective tenor associated with target tenor T_{high} ; and

$Tenor_{T_{low}}$ is the effective tenor associated with target tenor T_{low} .

2. SAPN extrapolation methodology

2.1 Extrapolation of the RBA data source using the SAPN extrapolation methodology

(a) Calculation of the 10 year extrapolated yield

The 10 year extrapolated yield for the RBA data source on each publication date is calculated as:

$$Yield_{10}^{RBA\ SAPN} = Yield_{10}^{RBA} + (10 - Tenor_{10}) * Slope$$

Where:

$Yield_{10}^{RBA}$ is the RBA's estimated yield at target 10 year tenor;

$Slope$ is the slope coefficient of the RBA's spread to swap estimates against the associated estimates of effective tenor using simple least squares regression; and

$Tenor_{10}$ is the effective tenor associated with the RBA's estimated spread to swap at the target 10 year tenor.

2.2 Extrapolation of the BVAL data source using the SAPN extrapolation methodology

(a) Calculation of the 10 year extrapolated yield

The 10 year extrapolated yield for the BVAL data source is calculated as:

$$Yield_{10}^{BVAL\ SAPN} = Spread_{10}^{BVAL\ SAPN} + Swap_{10}$$

Where:

$Yield_{10}^{BVAL\ SAPN}$

is the 10 year extrapolated BVAL yield using the SAPN methodology;

$Spread_{10}^{BVAL\ SAPN}$

is the extrapolated spread to swap at 10 years maturity, extrapolated using the SAPN methodology in accordance with paragraph (c) below;

$Swap_{10}$

is the 10 year swap rate published by Bloomberg.

- (b) Calculation of BVAL spread to swap curve

A BVAL spread to swap curve is calculated as BVAL yields less Bloomberg estimates of swap rates sourced using ADSWAP Currency.

- (c) Calculation of the extrapolated spread to swap at 10 years maturity

The extrapolated spread to swap at 10 years maturity is calculated as:

$$Spread_{10}^{BVAL\ SAPN} = Spread_T + (10 - T) * Slope$$

Where:

T

is the longest available tenor of 10 years or less at which the Bloomberg BVAL curve reports fair value yields;

$Spread_T$

is the BVAL estimated spread to swap at tenor T , calculated in accordance with (b) above;

$Slope$

is the slope coefficient of the BVAL spread to swap estimates (calculated in accordance with (b) above) against tenor using simple least squares regression.