



Gas Access Arrangement Revision

2013 – 2017

2018-2022

**Part B of the Access Arrangement for the
Distribution System**

Reference Tariffs and Reference Tariff Policy

2013 Approved Access Arrangement v 2018-2022 Revised Proposal (11 August 2017)

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1 Haulage Reference Tariffs

1.1 Haulage Reference Tariffs

- (a) Haulage Reference Tariffs for ~~2013~~2018
For Calendar Year ~~2013~~2018, the Haulage Reference Tariffs to apply from 1 ~~July 2013~~January 2018 are the tariffs set out in clause 9 adjusted to comply with the Tariff Control Formula and rebalancing control formula in clause 3 and verified by the Regulator as if clause 4 applied (but for the timing requirements of clause 4.1).
- (b) Introduction of new Haulage Reference Tariffs
- (1) The Service Provider may develop one or more new Haulage Reference Tariffs for application to Users in certain circumstances, providing that any new Haulage Reference Tariff is consistent with the Service Provider's Reference Tariff Policy, as set out in clause 6.
 - (2) The Service Provider is required to notify the Regulator in writing of its intent to introduce new Haulage Reference Tariffs or new Haulage Reference Tariff Components at least 60 Business Days prior to the date on which it wishes the new Haulage Reference Tariffs to commence.
- (c) No Meter
A Distribution Supply Point which does not have a Meter is assigned to Haulage Reference Tariff V, unless otherwise agreed between the Service Provider and the relevant User to whom Reference Services are provided at that Distribution Supply Point.
- (d) Distribution Area
The Haulage Reference Tariffs apply to the Distribution System within the Service Provider's Distribution Area. The Distribution Area is divided into two zones as detailed in clause 9.

1.2 Application of Haulage Reference Tariffs

- (a) Assigned Haulage Reference Tariffs
Where the Service Provider is charging a particular Haulage Reference Tariff in respect of Supply at a particular Distribution Supply Point, then the User at that Distribution Supply Point is to be regarded as being "assigned" to that Haulage Reference Tariff.
- (b) Haulage Reference Tariffs for existing Distribution Supply Points
Unless a new Haulage Reference Tariff has been reassigned to a Distribution Supply Point, the Haulage Reference Tariff to apply to a Distribution Supply Point from 1 ~~July 2013~~January 2018 is deemed to be the Haulage Reference Tariff assigned to that Distribution Supply Point as at 31 December ~~2012~~2017.
- (c) Haulage Reference Service provided at a Distribution Supply Point
The Haulage Reference Service provided at a particular Distribution Supply Point is the Haulage Reference Service in respect of which there is a specified Haulage Reference Tariff which is assigned at that Distribution Supply Point.

1.3 Assignment of New Haulage Reference Tariffs and New Haulage Reference Tariff Components

- (a) Change in volume of gas consumed
If, after the initial assignment of a Haulage Reference Tariff to a Distribution Supply Point, the Service Provider becomes aware that:
- (1) the Quantity of Gas withdrawn at that Distribution Supply Point has changed; or
 - (2) the User's Customer at that Distribution Supply Point has changed or will change; or

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- (3) the User's Customer at that Distribution Supply Point has changed or will change from being a Residential Customer to a Commercial Customer₂; or
- (4) the User's Customer at that Distribution Supply Point has changed or will change from being a Commercial Customer to a Residential Customer₁.

so that the Haulage Reference Tariff should no longer be assigned to the Distribution Supply Point to which it is currently assigned, the Service Provider may reassign an alternative Haulage Reference Tariff to that Distribution Supply Point.

(b) Change in demand or Connection characteristics

If the Service Provider believes that a User's demand characteristics or Connection characteristics (or both) have changed such that it is no longer appropriate for that User's Distribution Supply Point to be assigned to the Haulage Reference Tariff to which the User's Distribution Supply Point is currently assigned, then the Service Provider may reassign an alternative Haulage Reference Tariff to that Distribution Supply Point.

(c) Factors to be considered by the Service Provider

In determining the assignment of a Haulage Reference Tariff to a Distribution Supply Point the Service Provider will take into account:

- (1) the User's demand and Connection characteristics; and
- (2) Haulage Reference Tariffs assigned to Distribution Supply Points with the same or materially similar demand and Connection characteristics.

(d) Notification of proposed reassignment of Haulage Reference Tariff

If, after 1 ~~July 2013~~ January 2018, the Service Provider becomes aware that a Haulage Reference Tariff assigned to a Distribution Supply Point should be a different Haulage Reference Tariff, the Service Provider will advise the relevant User accordingly, prior to the reassignment occurring, unless otherwise agreed.

(e) Terms and Conditions for new and changed Distribution Supply Points

If a new Haulage Reference Tariff is assigned to a Distribution Supply Point or there is a change of User at a Distribution Supply Point, the Service Provider will supply to the relevant User, as soon as practicable after a request from that User, the terms and conditions which will apply to the relevant User at that Distribution Supply Point, and the Haulage Reference Tariff that is assigned to that Distribution Supply Point.

(f) Notification by User regarding a different Haulage Reference Tariff

Where a User receives notice under clause 1.3(d) that a Haulage Reference Tariff assigned to a Distribution Supply Point should be a different Haulage Reference Tariff, the different Haulage Reference Tariff will be assigned to that Distribution Supply Point unless the User submits a written and reasonable request to the Service Provider to remain on the original Haulage Reference Tariff and the Service Provider approves the request.

(g) Time period for reassignment

When introducing a new Haulage Reference Tariff and/or Haulage Reference Tariff Component, the Service Provider will assign the new Haulage Reference Tariff and/or Haulage Reference Tariff Component to the relevant Distribution Supply Point within 30 Business Days of the earlier of:

- (1) the receipt of a written notice that the Regulator has verified the Service Provider's proposed introduction of a new Haulage Reference Tariff and/or Haulage Reference Tariff Component; and
- (2) the date which is 20 Business Days from the date on which the Regulator received the Service Provider's notification under clause 4.1(c).

(h) Assignment to Haulage Reference Tariff D or Haulage Reference Tariff M

Where a Haulage Reference Tariff D or Haulage Reference Tariff M is assigned to a Distribution Supply Point, that Haulage ~~reference~~ Reference Tariff shall apply to that Distribution Supply Point for a minimum period of one year.

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- (i) Additional information required for new Haulage Reference Tariffs and new Haulage Reference Tariff Components
- Where the Service Provider is proposing to introduce a new Haulage Reference Tariff or a new Haulage Reference Tariff Component, the Service Provider will submit the following information to the Regulator, at the same time that it submits its Haulage Reference Tariff proposals, and in addition to the information required under clause 4.3:
- (1) a parent Haulage Reference Tariff(s), which is the Haulage Reference Tariff(s) currently assigned to those Distribution Supply Points to which the new Haulage Reference Tariff is proposed to apply;
 - (2) reasonable estimates of the Quantities that would have been distributed in relevant units if the new Haulage Reference Tariff Components had existed in the Calendar Year immediately prior to the current Calendar Year for each new Haulage Reference Tariff Component; and
 - (3) reasonable estimates of the Quantities that would have been distributed in relevant units if the new Haulage Reference Tariff Components had existed in the Calendar Year immediately prior to the current Calendar Year for each Haulage Reference Tariff Component of the parent Haulage Reference Tariff(s).
- (j) Switching rates
- Where the Service Provider submits information to the Regulator that the switching rate of Users moving from a given parent Haulage Reference Tariff to a new Haulage Reference Tariff will continue to be above zero from Calendar Year to Calendar Year, the Service Provider will also submit the following information:
- (1) the Quantities distributed in relevant units at the relevant Distribution Supply Point where the new Haulage Reference Tariff is already assigned to that Distribution Supply Point;
 - (2) reasonable estimates of the Quantities distributed in relevant units at those Distribution Supply Points at which the same new Haulage Reference Tariff is expected to apply during the course of the next Calendar Year; and
 - (3) the Quantities distributed in relevant units at those Distribution Supply Points at which the parent Haulage Reference Tariff continues to apply.
- (k) Details of estimates
- The Service Provider will provide details of and the basis for all estimates provided under clauses 1.3(i) and (j) to the Regulator, including (but not limited to) the information in clause 1.3(e).
- (l) Resubmission of estimates
- The Regulator can request that the Service Provider resubmit quantity estimates provided under clauses 1.3(i) and (j) where the Regulator considers the estimates to be incomplete, inconsistent or unsubstantiated. The Regulator must provide reasons for requesting such a resubmission.
- (m) Timing of information
- The elapsed time between the Regulator requesting that the Service Provider provide additional information under clause 1.3(k), and the Service Provider providing that information to the Regulator does not count towards the 20 Business Days under clause 1.3(g)(2).

1.4 Withdrawal of Haulage Reference Tariffs

- (a) Withdrawal of Haulage Reference Tariff
- When proposing the withdrawal of an existing Haulage Reference Tariff and/or Haulage Reference Tariff Component, the Service Provider will reassign alternative Haulage

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Reference Tariffs to all relevant Distribution Supply Points within 30 Business Days of the earlier of:

- (1) the receipt of a written notice that the Regulator has verified the Service Provider's proposed withdrawal of the existing Haulage Reference Tariff and/or Haulage Reference Tariff Component; and
 - (2) the date which is 20 Business Days from the date on which the Regulator received the Service Provider's notification under clause 4.1(c).
- (b) Notification of withdrawal of Haulage Reference Tariff
Prior to the withdrawal of the existing Haulage Reference Tariff and/or Haulage Reference Tariff Component, the Service Provider will as soon as practicable notify all affected Users in writing.
- (c) Additional information to be provided to Regulator
When the Service Provider proposes to withdraw a Haulage Reference Tariff, in addition to the information required under clause 4.3, the Service Provider will:
- (1) notify the Regulator in writing of the Haulage Reference Tariffs that will replace the withdrawn Haulage Reference Tariffs;
 - (2) where Haulage Reference Tariffs will be reassigned to more than one Distribution Supply Point in Calendar Year t , provide a breakdown of the actual Quantities, in relevant units, that were distributed under each existing Haulage Reference Tariff Component to these Users under the existing parent Haulage Reference Tariffs in Calendar Year $t-2$; and
 - (3) where Haulage Reference Tariffs have been reassigned to more than one Distribution Supply Point in Calendar Year $t-1$, provide a breakdown of the actual Quantities, in relevant units, that were distributed to these Users under each Haulage Reference Tariff Component which existed immediately prior to the reassignment under the parent Haulage Reference Tariffs that previously existed in Calendar Year $t-1$.

1.5 Provision of Information on Tariffs by the Distribution Business

- (a) The distribution business will prepare and publish a public Tariff Report, by 1 March of each Calendar Year. The Tariff Report should contain sufficient information to enable distribution customers to understand the basis for the tariff policies adopted by the distribution business.
- (b) The report:
- (1) will be submitted to the ~~regulator~~Regulator 60 business days prior to the end of the Calendar Year where the Service Provider proposes to introduce new tariffs or amend tariff structures in the subsequent Calendar Year;
 - (2) will be submitted to the ~~regulator~~Regulator 35 business days prior to the end of the Calendar Year where the Service Provider does not propose to introduce new tariffs or amend tariff structures in the subsequent Calendar Year.

2 Ancillary Reference Tariffs**2.1 Existing Ancillary Reference Tariffs**

~~For Calendar Year 2013, the Ancillary Reference Tariffs for Ancillary Reference Services for the period 1 January 2013 to 30 June 2013 remain unchanged from 2012. The Ancillary Reference Tariffs for Ancillary Reference Services that will apply from 1 July 2013, January 2018 are set out in clause 10.~~

Gas Access Arrangement Revision 2013-20172018-2022**2.2 Adjustments to Ancillary Reference Tariffs**

The Service Provider has calculated the Ancillary Reference Tariffs to apply for the six month period from 1 July 2013 based on the following formula:

$$\text{ART}_t = \text{ART}_{t-1} + (\text{ART}_{t-1} * \text{CPI}_t) * 2$$

(a) From January 2014~~2019~~ the Service Provider will make annual adjustments to the Ancillary Reference Tariffs in accordance with the formulae below. For the avoidance of doubt, Ancillary Reference Tariffs are not adjusted in accordance with the Tariff Control Formula or rebalancing control formula in clause 3.

(b) The Ancillary Reference Tariff Control Formula for the Calendar Year ~~2014~~2019 to 2022 is:

$$\text{ART}_t = \text{ART}_{t-2} * (1 + \text{CPI}_{t-1}) * (1 + \text{CPI}_t)$$

The Ancillary Reference

$$\text{ART}_t = \text{ART}_{t-1} * (1 + \Delta\text{CPI}_t)$$

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~~Tariff Control Formula~~ for the Calendar Year 2015 to 2017 is:

$$\text{ART}_t = \text{ART}_{t-1} * (1 + \text{CPI}_t)$$

where:

ART_t is the Ancillary Reference Tariff that applies in Calendar Year t ;

ART_{t-1} is the Ancillary Reference Tariff that applies in Calendar Year $t-1$;

~~ART_{t-1} is the Ancillary Reference Tariff that applies in Calendar Year $t-1$; and~~

~~CPI_t is the CPI for Calendar Year t , as defined in the Glossary.~~

~~CPI_{t-1} is the CPI for Calendar Year $t-1$, as defined in the Glossary.~~

ΔCPI is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in Calendar Year $t-2$ to the June quarter in Calendar Year $t-1$, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in Calendar Year $t-1$

divided by

the ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in Calendar Year $t-2$

minus 1.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the Regulator considers is the best available alternative index.

3 Haulage Reference Tariff Control Formula

(a) The Tariff Control Formula comprises the principles, procedures and formulae, which apply during the ~~Fourth~~Fifth Access Arrangement Period for:

- (1) varying;
- (2) withdrawing; and
- (3) introducing new,

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Haulage Reference Tariffs.

- (b) For the avoidance of doubt, the Tariff Control Formula and the rebalancing control formulae do not apply to Ancillary Reference Tariffs.
- (c) Whenever the Service Provider proposes to vary, withdraw or introduce any new Haulage Reference Tariff, it will ensure that the proposed charge will be compliant with the relevant Tariff Control Formula set out in clause 3.1 and with the relevant rebalancing control formulae in clause 3.6 to the reasonable satisfaction of the Regulator, and it will comply with the procedures set out in clause 4.

3.1 The Tariff Control Formula**3.1.1 Tariff Control Formula**

(a) The Tariff Control Formula adopted is consistent with the tariff basket form of price control.

(b) The Tariff Control Formula is:

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

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

where the Service Provider has n Haulage Reference Tariff categories, each category having up to m Haulage Reference Tariff Components and where:

p_t^{ij} is the proposed ΔCPI is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in Calendar Year $t-2$ to the June quarter in Calendar Year $t-1$, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in Calendar Year $t-1$

divided by

the ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in Calendar Year $t-2$

minus 1.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the Regulator considers is the best available alternative index;

t is the Calendar Year for which tariffs are being set;

X_t is the X factor for each year of the Fifth Access Arrangement Period as determined in the PTRM as approved in the full access arrangement decision, and annually revised for the Return on Debt Update calculated for the relevant year in accordance with that approved in the full access arrangement decision;

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PT_t is the cost pass through adjustment factor for Calendar Year t as calculated in accordance with clause 3.1.3;

n is the number of different Haulage Reference Tariffs;

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

p_t^{ij} is the proposed component j of Haulage Reference Tariff i in Calendar Year t ;

p_{t-1}^{ij} is the Haulage Reference Tariff being charged for Haulage Reference Tariff Component p_{t-1}^{ij} is the prevailing component j of Haulage Reference Tariff i in Calendar Year $t-1$;

q_{t-2}^{ij} is the audited Quantity of Haulage Reference Tariff Component j of Haulage Reference Tariff i that was sold in Calendar Year $t-2$;

GPI_t is the CPI for Calendar Year t , as defined in the Glossary;

X_t is 0.06 for Calendar Year t is 2014;

3.1.2 X_t is -0.01 for Return on Debt Update

(a) Overview

The Return on Debt Update is the update to the annual return on debt component of the rate of return included in the PTRM at the time the Regulator made its final decision for the Fifth Access Arrangement Period and is determined in accordance with paragraphs (b) to (e) of this clause 3.1.2. The Averaging Period for each Calendar Year of the Fifth Access Arrangement Period must be used for the purposes of calculating the annual return on debt observation for that year.

(b) Calculating the return on debt

The annual update of the return on debt component of the rate of return in each Calendar Year of the Fifth Access Arrangement Period, starting from 1 January 2018, is to be calculated as follows:

For 2018 Calendar Year ~~t is 2015~~; $kd_{2018} = R_{2018}$

~~X_t is -0.02 for For 2019 Calendar Year ~~t is 2016~~; $kd_{2019} = (0.9 \cdot R_{2018}) + (0.1 \cdot R_{2019})$~~

~~X_t is -0.03 for For 2020 Calendar Year ~~t is 2017~~; $kd_{2020} = (0.8 \cdot R_{2018}) + (0.1 \cdot R_{2019}) + (0.1 \cdot R_{2020})$~~

L_t is the Licence Fee Factor for Calendar Year t , as defined below; and

~~A_t is an approved Pass Through Factor for For 2021 Calendar Year; $kd_{2021} = (0.7 \cdot R_{2018}) + (0.1 \cdot R_{2019}) + (0.1 \cdot R_{2020}) + (0.1 \cdot R_{2021})$~~

For 2022 Calendar Year: $kd_{2022} = (0.6 \cdot R_{2018}) + (0.1 \cdot R_{2019}) + (0.1 \cdot R_{2020}) + (0.1 \cdot R_{2021}) + (0.1 \cdot R_{2022})$

where:

~~t , as defined kd_t is the annual return on debt for Calendar Year t of the Fifth Access Arrangement Period;~~

R_t is the annual return on debt observation for each Calendar Year t of the Fifth Access Arrangement period calculated in accordance with paragraph (c) below, other than Calendar Year 2018. For Calendar Year 2018, R_{2018} is 4.52 per cent.

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(c) Calculation of the annual return on debt observation

(1) Overview

(A) The return on debt observation for each Calendar Year is calculated by automatic application of the following formula. This requires three steps:

Step 1: Calculate the adjusted RBA estimate;

Step 2: Calculate the adjusted BVAL estimate;

Step 3: Calculate the final estimate, where the RBA and BVAL estimates are combined using an arithmetic average.

(B) The steps in paragraph (c)(1) reflect the approach used by the Regulator to determine the return on debt included in the PTRM at the time the Regulator made its final decision for the Fifth Access Arrangement Period. In the event that data availability changes during the Access Arrangement Period, the formulae below will change to reflect the contingencies set out in the Regulator's final decision for the Fifth Access Arrangement Period.

The Licence Fee Factor is:

~~L is the Licence Fee(C)~~ For the purpose of this clause 3.1.3(c) only, a business day means a day other than a Saturday, Sunday or a day recognised as a national public holiday or a public holiday in NSW.

(2) Calculating the adjusted RBA estimate

To calculate the adjusted RBA estimate in Step 1:

(A) Download RBA table F3—'Aggregate measures of Australian corporate bond yields' from the RBA website.

(B) From this file, download the 7 and 10 year 'Non-financial corporate BBB-rated bonds—Yield' entries for dates:

(i) from the most recent published RBA date prior to the commencement of the nominated Averaging Period for debt;

(ii) to the first published RBA date following the conclusion of the nominated Averaging Period for debt; and

(iii) all published dates between (i) and (ii).

(C) Download, from RBA table F16—'Indicative Mid Rates of Australian Government Securities', daily yields on CGSs for dates within the Service Provider's Averaging Period.

(D) Linearly interpolate between the two nearest bonds straddling 7 years remaining term to maturity, and the two nearest CGS bonds straddling 10 years remaining term to maturity. This is to be done using the following formula:

$$Yield_{interpolated} = Yield_{lower\ straddle\ bond} + [(Yield_{upper\ straddle\ bond} - Yield_{lower\ straddle\ bond}) \times (Date_{10\ years\ from\ interpolation\ date} - Maturity\ Date_{lower\ straddle\ bond}) / (Maturity\ Date_{upper\ straddle\ bond} - Maturity\ Date_{lower\ straddle\ bond})]$$

(E) Linearly extrapolate the published RBA 10 year yield (from paragraph (c)(2)(B)) from its published effective term to an effective term of 10 years using the formula below:

$$Yield_{10} = Yield_{10\ year\ published} + [(Spread\ to\ Swap_{10\ year\ published} - Spread\ to\ Swap_{7\ year\ published}) /$$

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$$\frac{(Effective\ Term_{10\ year\ published} - Effective\ Term_{7\ year\ published}) \times (10 - Effective\ Term_{10\ year\ published})}{Effective\ Term_{10\ year\ published}}]$$

- (F) Linearly extrapolate the published RBA 7 year yield (from paragraph (c)(2)(B)) from its published effective term to an effective term of 7 years using the formula below:

$$Yield_7 = \frac{Yield_{7\ year\ published} + [(Spread\ to\ Swap_{10\ year\ published} - Spread\ to\ Swap_{7\ year\ published}) / (Effective\ Term_{10\ year\ published} - Effective\ Term_{7\ year\ published}) \times (7 - Effective\ Term_{7\ year\ published})]}{Effective\ Term_{7\ year\ published}}$$

- (G) Subtract from the extrapolated 10 year RBA yield on each publication date the interpolated CGS yield on that date. For the 10 year term, use the RBA series as adjusted in paragraph (c)(2)(E). These are the **adjusted RBA 10 year spreads**.

- (H) Obtain daily RBA spread estimates by linear interpolation of the adjusted RBA spreads (from paragraphs (c)(2)(E) and (F)) for both 7 and 10 year terms between the published dates identified in paragraph (c)(2)(B). Use the adjusted RBA spread estimates as calculated in paragraph (c)(2)(D). This is to be done using the following formula:

$$Spread_{interpolated} = \frac{Spread_{first\ straddling\ publication\ date} + [(Date_{interpolation} - Date_{first\ straddling\ publication\ date}) \times (Spread_{second\ straddling\ publication\ date} - Spread_{first\ straddling\ publication\ date})]}{(Date_{second\ straddling\ publication\ date} - Date_{first\ straddling\ publication\ date})}]$$

If the annual return on debt estimate must be finalised before a final published RBA month-end estimate is available, hold the last observed RBA spread constant to the end of the Averaging Period.

- (I) Add to the daily spreads (from paragraph (c)(2)(G)), daily interpolated estimates of the CGS (from paragraph (c)(2)(D)) for all business days in the Service Provider's Averaging Period. Specifically:

- (i) add the 7 year interpolated CGS estimates to the 7 year interpolated RBA spreads. These are the **interpolated RBA daily 7-year yield estimates**;
 (ii) add the 10 year interpolated CGS estimate to the 10 year interpolated RBA spread. These are the **interpolated RBA daily 10-year yield estimates**.

- (J) Convert the interpolated RBA daily 7-year yield estimates and the interpolated RBA daily 10-year yield estimates (from paragraph (c)(2)(I)) to effective annual rates, using the formula:

$$Effective\ annual\ rate = \left(\left(1 + \frac{yield}{200} \right)^2 - 1 \right) \cdot 100$$

- (K) Average the yield estimate for the 10 year RBA yield estimate over all business days in the Service Provider's Averaging Period. This is the **adjusted RBA estimate**.

- (3) Calculating the adjusted BVAL estimate

To calculate the adjusted BVAL estimate in Step 2:

- (A) For dates after 14 April 2015, download the 10 year Corporate BBB rated Australian BVAL curve (BVCSAB10). For dates before 14 April 2015, download from Bloomberg the 7 year Corporate BBB rated Australian BVAL

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curve (BVCSAB07 index) for all business days in the Service Provider's Averaging Period.

(B) For dates before 14 April 2015, add to the 7 year yield the difference between the 7 and 10 year daily RBA adjusted yields (as calculated in viii) of the RBA process). This is the **extrapolated daily estimate of the BVAL 10 year yield**.

(C) For all dates, convert the 10 year yields into effective annual rates, using the formula:

$$\text{Effective annual rate} = \left(\left(1 + \frac{\text{yield}}{200} \right)^2 - 1 \right) \cdot 100$$

(D) Average the extrapolated daily estimates of the BVAL 10 year yield over all business days in the service provider's Averaging Period. This is the **adjusted BVAL estimate**.

(4) Calculating the annual estimate of the return on debt

To calculate the final estimate in Step 3:

(A) Take the simple average of the adjusted RBA estimate (from paragraph (c)(2)(K)) and the adjusted BVAL estimate (from paragraph (c)(3)(D)). This is the **annual estimate of the return on debt**.

(d) Annual return on debt observation where relevant data not available

For any Calendar Year of the Fifth Access Arrangement period (other than Calendar Year 2018) for which an annual return on debt observation cannot be calculated in accordance with paragraph (c) above due to changes in data availability, adjust the approach in accordance with the contingencies set out in the Regulator's final decision for the Fifth Access Arrangement Period.

(e) Notification and Regulator's determination of the annual return on debt observation

(1) The Regulator will notify the Service Provider of the updated Return on Debt and X factor within 15 Business Days after the end of the Service Provider's Averaging Period.

(2) In the 'PTRM input' sheet of the PTRM, update the relevant cell for the updated return on debt estimate (kd_t). This is:

For 2018 Calendar Year: kd_{2018} Cell G222

For 2019 Calendar Year: kd_{2019} Cell H222

For 2020 Calendar Year: kd_{2020} Cell I222

For 2021 Calendar Year: kd_{2021} Cell J222

For 2022 Calendar Year: kd_{2022} Cell K222.

(3) On the 'X factors' sheet of the PTRM, update the relevant X factor for the 2019–2022 Calendar Years as follows:

For 2019 Calendar Year: kd_{2019} Select 'Set X2 (price cap)'

For 2020 Calendar Year: kd_{2020} Select 'Set X3 (price cap)'

For 2021 Calendar Year: kd_{2021} Select 'Set X4 (price cap)'

For 2022 Calendar Year: kd_{2022} Select 'Set X5 (price cap)'.

3.1.3 Pass Through Adjustment Factor

(a) Pass Through Adjustment Factor

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PT_t is the pass through adjustment to the Distribution price control in Calendar Year t for the Service Provider is determined below. For the purposes of this formula Licence Fee includes distribution licence fees paid to the Essential Services Commission:

Calculation of the Licence Fee factor

The Licence Fee Factor pass through adjustment L_t for the Service Provider is:

$$1 + L_t = \frac{(1 + L'_t)}{(1 + L'_{t-1})}$$

where:

$$L'_t = \frac{lf_{t-1}(1 + pretaxWACC_D)^{3/2}(1 + CPI_t)^{3/2}}{(1 + CPI_t)(1 - X_t)(1 + A_t) \sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}}$$

L'_{t-1} (a) if Calendar Year t is the Calendar Year ending 31 December 2013, the Licence Fee in the final year of the previous Access Arrangement Period; and

(b) if Calendar Year t is after the Calendar Year ending 31 December 2013, is the value of L'_t determined in the Calendar Year $t-1$;

lf_{t-1} is the Licence Fee paid by the Service Provider for the Financial Year ending in June of the Calendar Year $t-1$;

CPI_t is the CPI for Calendar Year t , as defined in the Glossary;

X_t is 0.06 for Calendar Year t is 2014;

X_t is 0.01 for Calendar Year t is 2015;

X_t is 0.02 for Calendar Year t is 2016;

X_t is 0.03 for Calendar Year t is 2017;

p_{t-1}^{ij} is the Haulage Reference Tariff being charged for Haulage Reference Tariff Component j of Haulage Reference Tariff i in Calendar Year $t-1$;

q_{t-2}^{ij} is the Quantity of Haulage Reference Tariff Component j of Haulage Reference Tariff i that was sold in Calendar Year $t-2$;

A_t is an approved Pass Through Factor for Calendar Year t , as defined below; and

$pretax\ WACC_D$ is 5.15 per cent, the implied real pre-tax WACC being defined by the alignment of the service provider's building block revenue requirement with the NPV of its forecast revenues.

The Adjustment Factor:

A_t is the adjustment to the Distribution price control in Calendar Year t for the Service Provider and is determined in accordance with paragraph (b) below:

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

where:

A'_{t-1} (a) if Calendar Year t is the Calendar Year ending 31 December 2013, is zero;

(b) if Calendar Year t is after the Calendar Year ending 31 December 2013, is the value of A'_t determined in the Calendar Year $t-1$;

$$A'_t = \frac{PT_t}{(1 + CPI_t)(1 - X_t) \sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}}$$

where:

PT_t is the approved pass through to apply to the Distribution price control in Calendar Year t for the Service Provider as determined below;

CPI_t is the CPI for Calendar Year t , as defined in the Glossary;

X_t is 0.06 for Calendar Year t is 2014;

X_t is 0.01 for Calendar Year t is 2015;

X_t is 0.02 for Calendar Year t is 2016;

X_t is 0.03 for Calendar Year t is 2017;

p_{t-1}^{ij} is the Haulage Reference Tariff being charged for Haulage Reference Tariff Component j of Haulage Reference Tariff i in Calendar Year $t-1$;

q_{t-2}^{ij} is the Quantity of Haulage Reference Tariff Component j of Haulage Reference Tariff i that was sold in Calendar Year $t-2$;

Approved pass through:

$$PT_t = ap_{t-1} (1 + pretaxWACC_D)^{3/2} (1 + CPI_t)^{3/2}$$

(b) Calculation of the Adjustment Factor

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

where:

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~~AP_{t-1}~~ ~~PT_t~~ is:

(a) zero when Financial Year $t-1$ refers to Calendar Year ending 31 December 2018;

(b) the amount value of any approved Pass Through for PT_t determined in the Calendar Year $t-1$; and

~~pretax WACC_D~~ is 5.15 per cent, -1 for all other Calendar Years in the Access Arrangement Period;

PT_t equals:

$$PT_t = \frac{AP_t}{(1 + \Delta CPI_t)(1 - X_t) \sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}}$$

where:

implied real pre-tax WACC being AP_t is

(a) any determined pass through amount that the Regulator approves in whole or in part in Calendar Year t ; and/or

(b) any pass through amounts arising from any Relevant Pass Through Events (as that term is defined by the alignment of in the service provider's building block revenue requirement with Access Arrangement applying to the NPV Service Provider in the Fourth Access Arrangement Period) occurring in Fourth Access Arrangement Period that the Service Provider proposed to pass through in whole or in part in Calendar Year t ,

that includes 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 Haulage Reference Tariffs.

ΔCPI is the annual percentage change in the ABS CPI All Groups, Weighted Average of its forecast Eight Capital Cities for the June quarter in Calendar Year $t-2$ to the June quarter in Calendar Year $t-1$, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in Calendar Year $t-1$

divided by

the ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in Calendar Year $t-2$

minus 1.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the Regulator considers is the best available alternative index;

X_t is the X factor for each Calendar Year of the Fifth Access Arrangement Period as determined in the PTRM as approved in the full access arrangement decision, and annually revised for the Return on Debt Update calculated for

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the relevant year during the Fifth Access Arrangement Period in accordance with that approved in the full access arrangement decision;

p_{t-1}^{ij} is the prevailing component j of Haulage Reference Tariff i in Calendar Year $t-1$;

q_{t-2}^{ij} is the Quantity of component j of Haulage Reference Tariff i that was sold in Calendar Year $t-2$.

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3.2 New Haulage Reference Tariffs

(a) Where the Service Provider is proposing to introduce new Haulage Reference Tariffs and/or new Haulage Reference Tariff Components the q_{t-2}^{ij} term in clause 3.1 will be interpreted in relation to:

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- (1) the reasonable estimates of the quantities that would have been distributed, in relevant units, if the Haulage Reference Tariff Components had existed in Calendar Year $t-2$ as provided by the Service Provider, in accordance with clause 1.3(i); and
- (2) the Haulage Reference Tariff Components of the parent Haulage Reference Tariff in Calendar Year $t-2$ as provided by the Service Provider in accordance with clause 1.3(i).

(b) Where the Service Provider has introduced new Haulage Reference Tariffs and/or new Haulage Reference Tariff Components in Calendar Year $t-1$, the p_{t-1}^{ij} term in clause 3.1 will be interpreted in relation to the reasonable estimates of the Quantities that would have been distributed, in relevant units, if the Haulage Reference Tariff Components had existed in Calendar Year $t-2$, as provided by the Service Provider in accordance with clause 1.3(i).

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3.3 Withdrawal of Haulage Reference Tariffs

(a) Where the Service Provider is proposing to withdraw a Haulage Reference Tariff and to reassign only one other Haulage Reference Tariff to the Distribution Supply Point to which the Haulage Reference Tariff to be withdrawn applied, the p_t^{ij} term in clause 3.1 for the Haulage Reference Tariff that is proposed to be withdrawn will be interpreted in relation to the Haulage Reference Tariff Components of the Haulage Reference Tariff which will be reassigned to that Distribution Supply Point in Calendar Year t , in accordance with information submitted under clause 1.4.

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(b) Where the Service Provider is proposing to withdraw a Haulage Reference Tariff and to reassign more than one other Haulage Reference Tariff to the Distribution Supply Point to which the Haulage Reference Tariff to be withdrawn applied:

(1) the p_t^{ij} term in clause 3.1 for the Haulage Reference Tariff that is proposed to be withdrawn will be interpreted separately in relation to the Haulage Reference Tariff Components of each of the Haulage Reference Tariffs which will be reassigned to those Distribution Supply Points in Calendar Year t , in accordance with information submitted under clause 1.4; and

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(2) the q_{t-2}^{ij} term in clause 3.1 for the Haulage Reference Tariff that is proposed to be withdrawn in Calendar Year t will be the actual Quantities, in relevant units, of each Haulage Reference Tariff Component that were distributed under the parent Haulage Reference Tariff at those Distribution Supply Points to which the same Haulage Reference Tariff has been assigned in Calendar Year t , in accordance with information submitted under clause 1.4; and

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- (3) the $q_{t-2}^{ij} q_{t-2}^{ij}$ term in clause 3.1 for the Haulage Reference Tariff that has been withdrawn in Calendar Year $t-1$, will be the actual quantities, in relevant units, of each Haulage Reference Tariff Component that were distributed under the parent Haulage Reference Tariff at those Distribution Supply Points to which the same Haulage Reference Tariff has been assigned in Calendar Year $t-1$, in accordance with information submitted under clause 1.4.

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3.4 Haulage Reference Tariff information

Where the Service Provider submits information in accordance with clause 1.3(k) that switching rates of Users moving from a given parent Haulage Reference Tariff to a proposed new Haulage Reference Tariff will continue to be above zero from Calendar Year to Calendar Year, application of the Tariff Control Formula in clause 3.1 will distinguish between:

- (a) Distribution Supply Points to which the new Haulage Reference Tariff has already been assigned, in which case $q_{t-2}^{ij} q_{t-2}^{ij}$ will be based on the actual Quantities distributed, in relevant units, at those Distribution Supply Points to which the new Haulage Reference Tariff has already been assigned and $p_t^{ij} p_t^{ij}$ is the new Haulage Reference Tariff; and
- (b) Distribution Supply Points to which the new Haulage Reference Tariff is expected to be assigned during Calendar Year t , in which case $q_{t-2}^{ij} q_{t-2}^{ij}$ will be based on the reasonable estimates of the Quantities which would have been distributed at those Distribution Supply Points, as submitted by the Service Provider in accordance with clause 1.3(i), and $p_t^{ij} p_t^{ij}$ is the new Haulage Reference Tariff.

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3.5 Rebalancing Controls on Haulage Reference Tariffs

- (a) The Service Provider will maintain Haulage Reference Tariffs between:
- (1) an upper limit of the cost to bypass the network; and
 - (2) a lower limit of the marginal cost of supply.
- (b) In undertaking any rebalancing, the Service Provider will ensure that the proposed Haulage Reference Tariffs comply with the relevant Rebalancing Control Formula as set out in this clause 3.5 as follows:
- ~~(c) No rebalancing control is applied in Calendar Year 2013~~

3.5.1 Rebalancing Control Formula:

$$(1 + CPI_t)(1 - X_t)(1 + Y_t)(1 + L_t)(1 + A_t) \geq \frac{\sum_{i=1}^n \sum_{j=1}^m p_t^{ij} * q_{t-2}^{ij}}{\sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} * q_{t-2}^{ij}}, i = 1, \dots, n$$

where:

~~p_t^{ij}~~ is the proposed The Rebalancing Control Formula is:

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$$(1 + \Delta CPI_t)(1 - X_t)(1 + PT_t)(1 + 0.02) \geq \frac{\sum_{i=1}^n \sum_{j=1}^m P_t^{ij} Q_{t-2}^{ij}}{\sum_{i=1}^n \sum_{j=1}^m P_{t-1}^{ij} Q_{t-2}^{ij}}$$

where:

ΔCPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in year $t-2$ to the June quarter in year $t-1$, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in year $t-1$

divided by

the ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in year $t-2$

minus 1.

If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the Regulator considers is the best available alternative index;

t is the Calendar Year for which tariffs are being set;

X_t is the X factor for each Calendar Year of the Fifth Access Arrangement Period as determined in the PTRM as approved in the full access arrangement decision, and annually revised for the Return on Debt Update calculated for the relevant Calendar Year during the Access Arrangement Period in accordance with that approved in the full access arrangement decision;

PT_t is the cost pass through factor for Calendar Year t as calculated in accordance with clause 3.1.3;

n is the number of different Haulage Reference Tariffs;

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

p_t^{ij} is the proposed component j for Haulage Reference Tariff i in Calendar Year t ;

~~p_{t-1}^{ij} is the Haulage Reference Tariff Component p_{t-1}^{ij} is the prevailing component j being Charged for of Haulage Reference Tariff i in Calendar Year $t-1$;~~

~~$q_{t-2}^{ij} q_{t-2}^{ij}$ is the audited Quantity of Haulage Reference Tariff Component j of Haulage Reference Tariff i that was sold in Calendar Year $t-2$;~~

CPI_t is the CPI for Calendar Year t , as defined in the Glossary;

X_t is 0.06 for Calendar Year t is 2014;

X_t is -0.01 for Calendar Year t is 2015;

X_t is -0.02 for Calendar Year t is 2016;

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X_t is 0.03 for Calendar Year t is 2017;

Y_t is equal to 0.02;

L_t is the Licence Fee factor as defined in clause 3.1. If $L_t < 0$, then $(1 + L_t) = 1$; and

A_t is an approved Pass Through Factor for Calendar Year t . If $A_t < 0$, then $(1 + A_t) = 1$.

3.6 Rebalancing Controls for New and Withdrawn Haulage Reference Tariffs

For the purposes of the application of the rebalancing control formulae as set out in ~~Clause~~ clause 3.5:

(a) ~~where~~Where the Service Provider proposed to introduce a new Haulage Reference Tariff and/or new Haulage Reference Tariff Components:

- (1) the term $q_{t-2}^i q_{t-2}^j$ in the rebalancing control will be interpreted in relation to the reasonable estimates of the Quantities that would have been sold, in relevant units, if the Haulage Reference Tariff Components existed in Calendar Year $t-2$; and
- (2) the term $p_{t-2}^i p_{t-2}^j$ in the rebalancing control will be interpreted in relation to the Haulage Reference Tariff Components of the parent Haulage Reference Tariff in Calendar Year $t-2$.

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(b) ~~where~~Where the Service Provider has introduced new Haulage Reference Tariffs and/or new Haulage Reference Tariff Components in Calendar Year $t-1$, the $q_{t-2}^i q_{t-2}^j$ term of the rebalancing control will be in relation to the reasonable estimates of the Quantities that would have been sold, in relevant units, if the Haulage Reference Tariff Components had existed in Calendar Year $t-2$.

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(c) ~~where~~Where the Service Provider proposes to withdraw a Haulage Reference Tariff and reassign those Distribution Supply Points to another Haulage Reference Tariff:

- (1) the $p_{t-2}^i p_{t-2}^j$ term in the rebalancing control for the Haulage Reference Tariff that is proposed to be withdrawn will be interpreted in relation to the Haulage Reference Tariff Components of the Haulage Reference Tariff that those existing Distribution Supply Points will be reassigned to in Calendar Year t ;
- (2) the rebalancing control on Haulage Reference Tariffs will be applied separately in relation to each of the Haulage Reference Tariffs Distribution Supply Points are reassigned to, and:
 - (A) the $p_{t-2}^i p_{t-2}^j$ term in the rebalancing control for the Haulage Reference Tariff that is proposed to be withdrawn will be interpreted in relation to the Haulage Reference Tariff Components of each of the Haulage Reference Tariffs that those existing Distribution Supply Points will be reassigned to in Calendar Year t ; and
 - (B) the $q_{t-2}^i q_{t-2}^j$ term in the rebalancing control for the Haulage Reference Tariff that is proposed to be withdrawn will be the breakdown of the actual Quantities, in relevant units, that were sold under each Haulage Reference Tariff Component of the parent Haulage Reference Tariffs to each Distribution Supply Point reassigned to the same Haulage Reference Tariff.

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Gas Access Arrangement Revision 2013-2017/2018-2022**3.7 The Carbon Tariff**

When assessing the Service Provider's proposed tariffs, submitted in accordance with this Access Arrangement, the AER will assess whether the expected revenue from Carbon Tariffs (CTR_t), is less than or equal to the Maximum Carbon Tariff Revenue allowed ($MCTR_t$):

$$CTR_t \leq MCTR_t$$

where:

$MCTR_t$ is determined by the formula in clause 3.7.1; and

CTR_t is the total of the Service Provider's proposed Carbon Tariffs — defined as 'the uplift in Reference Tariffs directly associated with the recovery of Service Provider's Carbon Liability' in Calendar Year t multiplied by the corresponding forecast quantities to be distributed for each tariff component of each tariff, in Calendar Year t .

3.7.1 Maximum Carbon Tariff Revenue ($MCTR_t$)

$MCTR_t$ is expressed by the formula as set out below:

$$MCTR_t = CTP_t - K_t$$

where:

$MCTR_t$ is the maximum revenue the Service Provider is allowed to receive from its Carbon Tariffs from all distribution customers for the Calendar Year t ;

CTP_t is the aggregate of all charges which the Service Provider forecasts it will be required to pay in Carbon Liability in respect of Calendar Year t , and

K_t is determined in accordance with clause 3.7.2.

3.7.2 Correction factor K_t

K_t is a correction factor to account for any under or over recovery of actual revenue from Carbon Tariffs in relation to allowed revenue from 3.7 tariffs.

K_t is determined by reference to the formula set out below.

$$K_t = (Ky_t + Kz_t + K_{t-1})(1 + CPI_t)(1 + pretaxWACC_D)$$

where:

Ky_t is calculated in accordance with clause 3.7.3;

Kz_t is calculated in accordance with clause 3.7.4;

K_{t-1} is the figure calculated for K_t for Calendar Year $t - 1$;

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~~pretax WACC_D is 0.0515; and~~

~~CPI_t is the CPI for Calendar Year t, as defined in the Glossary.~~

3.7.3 Calculation of Ky_t

~~Ky_t is a correction factor determined with reference to the formula in this clause.~~

$$\del{Ky_t = \frac{CTR_{t-1}}{CTP_{t-1}}}$$

~~where:~~

~~CTR_{t-1} is the total revenue which it is estimated the Service Provider will earn from its Carbon Tariffs in respect of all distribution customers in Calendar Year t-1; and~~

~~CTP_{t-1} is the aggregate of all Carbon Liability which it is estimated will be payable by the Service Provider, in respect of Calendar Year t-1.~~

3.7.4 Calculation of Kz_t

~~Kz_t is a correction factor for the difference between the estimates made in clause 3.7.3 in Calendar Year t-1 and actual audited values and is expressed by the formula in this clause.~~

$$\del{Kz_t = \left\{ \left(\frac{CTRa_{t-2}}{CTRe_{t-2}} - \frac{CTPa_{t-2}}{CTPe_{t-2}} \right) \right\} \times (1 + \text{pretaxWACC}_D)(1 + CPI_{t-1})}$$

~~where:~~

~~CTRa_{t-2} is the actual audited total revenue earned by the Service Provider from Carbon Tariffs in respect of all distribution customers in Calendar Year t-2;~~

~~CTRe_{t-2} is the figure used for t-1 CTR_{t-1} when calculating Ky_t for Calendar Year t-2 under clause 3.7.3;~~

~~CTPa_{t-2} is the audited aggregate of all Carbon Liability paid by the Service Provider in respect of Calendar Year t-2;~~

~~CTPe_{t-2} is the figure used for CTP_{t-1} when calculating Kyt for Calendar Year t-1 under clause 3.7.3;~~

~~CPI_{t-1} is CPI_t as defined in the Glossary for the Calendar Year t-1.~~

~~pretax WACC_D is 0.0515.~~

Gas Access Arrangement Revision ~~2013-2017~~2018-2022**4 Approval of ~~Annual and Within-Year Variations to~~ Haulage Reference Tariffs and New Haulage Reference Tariffs****4.1 Submission to the Regulator**

- (a) The Service Provider will, at least 50 Business Days prior to the commencement of the next Calendar Year, submit proposed Haulage Reference Tariffs to apply from the start of the next Calendar Year for verification of compliance by the Regulator, in accordance with clauses 4.2(a), (b), (c) and (d).
- ~~(b) Where the Service Provider proposes to change a Haulage Reference Tariff within a Calendar Year, it will submit the proposed Haulage Reference Tariff change for verification of compliance by the Regulator, in accordance with clauses 4.2(a), (b) and (c).~~
- ~~(c) Where the Service Provider proposes to introduce a new Haulage Reference Tariff or new Haulage Reference Tariff Component or withdraw an existing Haulage Reference Tariff or existing Haulage Reference Tariff Component within a Calendar Year it will submit the proposal for verification of compliance by the Regulator, in accordance with clauses 4.2(a), (b), (c) and (d).~~
- ~~(d)~~ (b) The Service Provider will ensure its proposed Haulage Reference Tariffs or proposed changes to Haulage Reference Tariffs submitted under ~~clauses~~clause 4.1(a), (b) or (c) comply with the Tariff Control Formula and rebalancing control formulae in clause 3.

4.2 Assessment by the Regulator

- (a) The Regulator will provide the Service Provider with written notice of whether or not it has verified the Haulage Reference Tariffs proposed by the Service Provider and submitted under ~~clauses~~clause 4.1(a), (b) or (c) as compliant with the Tariff Control Formula and the rebalancing control ~~formulae~~formula. If the Regulator declines to verify the proposed Haulage Reference Tariffs as compliant, the Regulator must provide a written statement of reasons for that decision.
- (b) The proposed Haulage Reference Tariffs will be deemed to have been verified as compliant in writing by the Regulator by the end of 30 Business Days from the date on which the Regulator received the Service Provider's notification under ~~clauses~~clause 4.1(a), (b) or (c) unless the Regulator has notified the Service Provider in writing that it has declined to verify the proposed Haulage Reference Tariffs as compliant. The ~~AER~~Regulator may require an extension of a specified duration. The ~~AER~~Regulator will notify ~~AusNet Services~~the Service Provider of the extension and its duration within 30 ~~business days~~Business Days of receiving a notification from ~~AusNet Services~~the Service Provider.
- (c) If the Regulator issues a written notice to the Service Provider that it has declined to verify proposed Haulage Reference Tariffs and/or Haulage Reference Tariff Components (including but not limited to any new Haulage Reference Tariff and/or any new Haulage Reference Tariff Component) as compliant for a Calendar Year t , then:
- (1) if the relevant left-hand side of the price control formula set out in clause 3.1 is >1 then the Haulage Reference Tariffs applying in Calendar Year $t-1$ are scaled up by the relevant left-hand side of the price control formula set out in clause 3.1; or
 - (2) if the relevant left-hand side of the price control formula set out in clause 3.1 is <1 then the Haulage Reference Tariffs applying in Calendar Year $t-1$ are scaled down by the relevant left-hand side of the price control formula set out in clause 3.1.
- (d) If the Regulator has notified the Service Provider in writing that it has declined to verify as compliant the withdrawal of any existing Haulage Reference Tariffs and/or the withdrawal of any existing Haulage Reference Tariff Components proposed for Calendar Year t , then:
- (1) if the relevant left-hand side of the price control formula set out in clause 3.1 is >1 then the Haulage Reference Tariffs applying in Calendar Year $t-1$ are scaled up by the relevant left-hand side of the price control formula set out in clause 3.1; or

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- (2) if the relevant left-hand side of the price control formula set out in clause 3.1 is <1 then the Haulage Reference Tariffs applying in Calendar Year $t-1$ are scaled down by the relevant left-hand side of the price control formula set out in clause 3.1.
- (e) The Service Provider may provide additional information and resubmit or revise its proposed Haulage Reference Tariffs in accordance with ~~clauses clause~~ 4.1(a), (b) or (c) if the Regulator declines to verify as compliant proposed Haulage Reference Tariffs under clause 4.2(a) provided that if, in a Calendar Year, changes to Haulage Reference Tariffs have been verified as compliant by the Regulator, the Service Provider will notify in writing all Users affected by the changes as soon as practicable.

4.3 Information Required from the Service Provider

- (a) At the same time as submitting proposed Haulage Reference Tariffs to the Regulator, the Service Provider will also provide to the Regulator, information demonstrating that the proposed Haulage Reference Tariffs are, to the extent relevant, consistent with the Tariff Control Formula and rebalancing control ~~formulae~~ formula in clause 3.
- (b) In respect of the annual variations of Reference Tariffs, the Service Provider will include a statement to support the gas quantity inputs in the tariff variation formula. The statement will be independently audited or verified and the quantity input will reflect the most recent actual annual quantities available at the time of tariff variation assessment.

~~In respect of the Carbon Tariff, the Service Provider will include the following information and supporting documentation:~~

- (1) ~~the most recent available certified emissions figure for the network, this being the reported figure for the previous financial year~~
- (2) ~~a forecast of emissions for the current financial year;~~
- (3) ~~a forecast of emissions for the subsequent financial year;~~
- (4) ~~the actual cost of carbon permit acquisition for the previous financial year;~~
- (5) ~~a forecast cost of carbon permit acquisition for the current financial year;~~
- (6) ~~a forecast cost of carbon permit acquisition for the subsequent financial year;~~
- (7) ~~the dollar amount allowed each year by the AER for recovery, for all previous years;~~
- (8) ~~the difference between amounts allowed and the actual or forecast cost for the previous and current financial year; and~~
- (9) ~~the amount being sought for recovery in the following financial year, being the sum of (6) and (7) above, which amount is to be included in the carbon tariff.~~

4.4 Default Haulage Reference Tariffs for new Calendar Year t

- (a) If the Service Provider does not, at least 50 Business Days prior to the commencement of the next Calendar Year t submit proposed Haulage Reference Tariffs to apply from the start of the next Calendar Year t in accordance with clause 4.1(a) then:
- (a1) where the left-hand side of the Tariff Control Formula to be applied for Calendar Year t is greater than one, the Haulage Reference Tariffs applying in Calendar Year $t-1$ will be scaled up by the left-hand side of the Tariff Control Formula to be applied for Calendar Year t and will apply for Calendar Year t and the Haulage Reference Tariff Components applying in Calendar Year $t-1$ will be scaled up and applied accordingly; and
- (b2) where the left-hand side of the Tariff Control Formula to be applied for Calendar Year t is less than one, the Haulage Reference Tariffs applying in Calendar Year $t-1$ will be scaled down by the left-hand side of the Tariff Control Formula to be applied for Calendar Year t and will apply for Calendar Year t and the Haulage Reference Tariff Components applying in Calendar Year $t-1$ will be scaled down and applied accordingly.

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Until until such time as the Regulator has, or been deemed to have, verified Haulage Reference Tariffs and/or Haulage Reference Tariff Components for Calendar Year t as compliant in response to a submission by the Service Provider.

5 Calculation of Charges for Haulage Reference Tariffs

Haulage Reference Tariffs are charged in accordance with the calculations described below:

5.1 Distribution Fixed Tariff Components

The Distribution Fixed Tariff Components and consumption ranges shown in clause 9, as applicable, are daily amounts. The Distribution Fixed Tariff Component or consumption range applied to calculate a Charge for a billing period in Calendar Year t shall be the Distribution Fixed Tariff Component applying in Calendar Year t or consumption range shown in clause 9, as applicable, multiplied by the number of days in the billing period.

5.2 Distribution Volume Tariff Components

- (a) Distribution Volume Tariff Components are Charged according to the actual GJs of Gas withdrawn in the billing period, or an estimate of the GJs of Gas withdrawn in the billing period which is acceptable to the Service Provider.
- (b) Where some of the days in the billing period are in the Peak Period, the GJs of Gas withdrawn in the Peak Period are:

~~The GJs of Gas withdrawn in the Peak Period are:~~

$$GPP = TAG \times \frac{PPBP}{TBP} \frac{PPBP}{TBP}$$

where:

GPP is defined as the GJs of Gas withdrawn in the Peak Period;

TAG is defined as the total actual GJs of Gas withdrawn in the billing period, or an estimate of the total GJs of Gas withdrawn in the billing period which is acceptable to the Service Provider;

PPBP is defined as the number of days in the billing period which are in the Peak Period; and

TBP is defined as the total number of days in the billing period.

5.3 Distribution Demand Tariff Components

- (a) Distribution Demand Tariff Components are charged according to the following formula:

$$MC = \frac{EAC - CBTD}{RBP}$$

where:

MC is the charge for a particular month in Regulatory Year $t-2$;

EAC is the estimated annual charge calculated by applying the relevant Haulage Reference Tariff Components to EAD;

CBTD is the sum of the charges for all prior billing periods of Regulatory Year $t-2$;

RBP is the remaining billing periods in Regulatory Year $t-2$ as set out below:

Field Code Changed

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Month	RBP
January	12
February	11
March	10
April	9
May	8
June	7
July	6
August	5
September	4
October	3
November	2
December	1

EAD is:

- (i1) for billing periods between January and September, the higher of:
 - (iiA) the forecast Annual MHQ for Regulatory Year $t-1$; and
 - (iiB) the Annual MHQ, as measured to date during Regulatory Year $t-1$ where the forecast Annual MHQ for Regulatory Year t is either:
 - (ivC) the actual Annual MHQ for Regulatory Year $t-1$; or
 - (ivD) a Quantity agreed between the Service Provider and the User;
- (i2) for billing periods between October and December, the actual Annual MHQ for Regulatory Year $t-1$.

(Ab) Where a User's Customer withdraws Gas at a Distribution Supply Point and ceases to withdraw Gas at that Distribution Supply Point in a month:

- (i1) the Service Provider may charge the User in respect of that Distribution Supply Point, for the whole of the month in which the Customer ceased withdrawal of Gas;
- (ii2) the Service Provider will not charge the User in respect of that Distribution Supply Point, for any month after the month in which the Customer ceased withdrawal of Gas; and
- (iii3) where another Customer starts to withdraw Gas at that Distribution Supply Point, the Quantity of forecast highest MHQ for the year for that Distribution Supply Point must be agreed between the Service Provider and the relevant User in respect of that Distribution Supply Point.

(Bc) Where a User's Customer withdraws Gas at a Distribution Supply Point and ceases to be a Customer of that User during a month and becomes:

- (i1) a Customer of another User; or
 - (ii2) a User,
- the Service Provider will charge:
- (iii3) the User from whom the Customer purchases its Gas at that Distribution Supply Point in that month; or
 - (iv4) the Customer as a User in that month, respectively, for that month.

Gas Access Arrangement Revision 2013-2017/2018-2022**5.4 Unmetered Haulage Reference Tariff Components**

Where Haulage Reference Tariff V has been assigned to a Distribution Supply Point under clause 1.1(c) because it is an unmetered Distribution Supply Point, there is deemed to be no withdrawal of Gas at the Distribution Supply Point for charging purposes. For the avoidance of doubt, in such circumstances, Commercial Haulage Reference Tariff V is deemed to apply and any applicable fixed Haulage Reference Tariff Component may be charged as a fixed charge.

5.5 Natural Gas Extension Project Haulage Reference Tariffs

Tariffs apply to Distribution Supply Points where the Distribution Zone is as listed in clause 9.

6 Reference Tariff Policy

This clause 6 sets out the principles that are to be used to determine a Reference Tariff (a Reference Tariff Policy).

6.1 CPI - X Price Path

The CPI - X price path approach is consistent with the fixed principle in clause 7.2(a)(1). The Service Provider adopts this approach.

6.2 New Facilities Investment

- (a) The Service Provider may at its discretion undertake Capital Expenditure that does not satisfy the requirements of the New Capital Expenditure Criteria under the National Gas Rules. The Extensions / Expansions Policy in clause 5.6 of Part A of this Access Arrangement explains how Capital Expenditure in relation to a New Facility which is to be treated as part of the Covered Pipeline will affect Reference Tariffs.
- (b) Clause 6.3 below sets out the principles of a Speculative Capital Investment Account which the Service Provider may operate in relation to Capital Expenditure that does not satisfy the requirements of the New Capital Expenditure Criteria under the National Gas Rules.

6.3 Speculative Capital Expenditure Account

In accordance with ~~Rule~~rule 84 of the National Gas Rules, the amount of the Speculative Capital Expenditure Account for the Service Provider at any time is equal to:

- (a) the difference between the Capital Expenditure and the amount which satisfies the requirements of the New Capital Expenditure Criteria under the National Gas Rules, less any amount the Service Provider notifies the Regulator (at the time the expenditure is incurred) that it has elected to recover through a surcharge under ~~Rule~~rule 83 of the National Gas Rules; plus
- (b) an annual increase in that amount calculated on a compounded basis at a risk adjusted rate of return approved by the Regulator; less
- (c) any part of the Speculative Capital Expenditure Account previously added to the Capital Base due to the type and volume of services provided using the increase in Capacity attributable to the New Facility change such that any part of the Speculative Capital Expenditure Account would then satisfy the requirements of the New Capital Expenditure Criteria under the National Gas Rules.

6.4 ~~Efficiency Incentive and Carry-over Mechanism~~Mechanisms

Rule 98 of the National Gas Rules provides for an Access Arrangement to include an incentive mechanism to encourage efficiency in the provision of services by the Service Provider. An incentive mechanism may provide for carrying over increments for efficiency gains and decrements for losses of efficiency from one Access Arrangement Period to the next and must be consistent with the revenue and pricing principles.

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6.4.1 (a) — General principles

(1a) The incentive arrangements that are to apply to cost-related efficiencies achieved by, and innovation initiatives sought by, the Service Provider, and the adjustment to preserve the incentive to meet efficient growth in demand are a combination of:

- (1) a tariff basket form of price control; and
- (2) the carryover that would result in the Service Provider retaining the reward or penalty associated with an operating expenditure efficiency-improving initiative gain or loss for five years (for improvements made in Years 1-4 of the Fourth Access Arrangement Period) after the year in which the gain or loss was achieved, i.e. a reward (being: and
- (3) the net amount carryover that would result from the Service Provider retaining into the Sixth Access Arrangement Period, 30 percent of the Net Present Value (NPV) of the efficiency any capital expenditure efficiencies gains (or losses) relating to capital and operating expenditure) in one year of an Access Arrangement Period would be added to the Total Revenue and carried forward into the realised during the Fifth Access Arrangement Period if necessary, until it has been retained by the Service Provider for a period of a full five years (for improvements made in Years 1-4 of the Fourth Access Arrangement Period).

(2b) There would be no claw-back of gains that have already been made (or losses that have been incurred) during the Fourth/Fifth Access Arrangement Period.

6.4.2 (b) — ~~Opex~~ Operating Expenditure Incentive Mechanism

(1) — ~~The~~ An efficiency carryover mechanism will apply to operating expenditure annual. It will operate in the following way:

(a) The incremental efficiency gain (or loss) for 2013/2018 will be calculated as using:

$$E_{2013} = (F_{2013} - A_{2013}) - (F_{2012} - A_{2012}) + (F_{2014} - A_{2014})$$

$$I_{2018} = (F_{2018} - A_{2018}) - [(F_{2017} - A_{2017}) - (F_{2015} - A_{2015})]$$

where:

E_{2013}/I_{2018} is the incremental efficiency gain in 2013 (or loss) for 2018

F_{2013}/F_{2018} is the forecast ~~opex~~ operating expenditure for 2013-2018

A_{2013}/A_{2018} is the actual ~~opex~~ operating expenditure for 2013-2018

F_{2012}/F_{2017} is the forecast ~~opex~~ operating expenditure for 2012-2017

A_{2012}/A_{2017} is the actual ~~opex~~ operating expenditure for 2012-2017

F_{2014}/F_{2015} is the forecast ~~opex~~ operating expenditure for 2014-2015

A_{2014}/A_{2015} is the actual ~~opex~~ operating expenditure for 2014-2015

(2b) The ~~operating expenditure annual~~ incremental efficiency gain (or loss) for 2014/2019 to 2017/2022 will be calculated as using:

$$E_{i,j} = (F_i - A_i) - (F_{i-1} - A_{i-1})$$

where:

$E_{i,j}$ is the efficiency gain (or loss) in year i of the access arrangement period

F_i is the forecast ~~opex~~ operating expenditure in year i of the access arrangement period

A_i is the actual ~~opex~~ operating expenditure in year i of the access arrangement period

F_{i-1} is the forecast ~~opex~~ operating expenditure in year $i-1$ of the access arrangement period

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A_{i-1} is the forecast ~~opex~~operating expenditure in year $i-1$ of the access arrangement period

~~(3) Opex(c)~~ Actual operating expenditure in 2017the final year of the access arrangement period, 2022, is to be estimated using the following equation:

$$A_{2017}^* = A_{2016} + F_{2017} - F_{2016}$$

$$A_{2022}^* = F_{2022} - (F_b - A_b) + \text{non-recurrent efficiency gain}_b$$

where:

$A_{2017}A_{2022}^*$ is the estimate of ~~opex~~operating expenditure for 2017/2022

$F_{2017}F_{2022}$ is the forecast ~~opex~~operating expenditure for 2017/2022

$F_{2016}F_b$ is the forecast ~~opex~~operating expenditure for 2016the base year used to forecast operating expenditure in the Sixth Access Arrangement Period

$A_{2016}A_b$ is the actual ~~opex~~operating expenditure for 2016the base year used to forecast operating expenditure in the Sixth Access Arrangement Period

~~(4) For~~Non-recurrent efficiency gain_b is the avoidance of doubt, the adjustment made to base year operating expenditure annual efficiency gain (or loss)used to forecast operating expenditure for 2017 will be assumed to equal zero.

~~(5) The annual efficiency gain or loss will be added to the Service Provider's Total Revenue for five years after the year in which the efficiency gain (or loss) was achieved. If necessary, the annual efficiency gain or loss will be carried forward into the Fifth Access Arrangement Period until it has been retained by the Service Provider for at the access arrangement period of five years expected to commence 1 January 2023 to account for operating expenditure associated with one-off factors.~~

~~(6d)~~ To ensure efficiency gains or losses made in 2017/2022 are retained for five years, ~~opex~~operating expenditure for the FifthSixth Access Arrangement Period should be forecast in a manner consistent with the estimate for opex in 2017, $A_{2017}2022$, A_{2022}^* , in paragraph ~~3(c)~~ above. This provides the Service Provider the same reward had the expenditure level in 2017/2022 been known.

~~(7(e))~~ For the avoidance of doubt, the incremental efficiency gains (or losses) are carried over from year to year in real dollars to ensure that these gains (or losses) are not eroded by inflation. The price indices used in this calculation are to be consistent with those used to forecast operating expenditure for the Sixth Access Arrangement Period.

~~(f)~~ Increments or decrements from the summation of annual efficiency gains or losses calculated in accordance with the approved incentive mechanism in the Access Arrangement Period will give rise to an additional 'building block' in the calculation of the Total Revenue amounts for each year of the Sixth Access Arrangement Period.

~~(8g)~~ The following costs will be excluded from the operation of the efficiency carryover mechanism:

~~(1)~~ movements in provisions;

~~(2)~~ losses on scrapping of assets;

~~(3)~~ any cost category that is not forecast using a) single year revealed cost approach in the Sixth Access Arrangement Period. These costs associated with complying with any retailer of last resort requirements;

~~(b)~~ amounts for approved Cost Pass Through Events;

~~(c)~~ may include debt raising costs and unaccounted for gas expenses;

~~(d)~~ licence fees;

~~(e)~~ debt raising costs;

~~(f)~~ movements in provisions; and

~~(g)~~

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- (4) any other activity that the Service Provider and the Regulator agree to exclude from the operation of the efficiency carryover mechanism.
- (h) The forecast operating expenditure amount for each year of the Access Arrangement Period will be adjusted to include any Determined Pass Through Amounts or other AER approved expenditure arising from Cost Pass Through Events which apply in respect of that year.
- (9(i)) Where the Service Provider changes its approach to classifying costs as either capital expenditure or operating expenditure during the Access Arrangement Period, the Service Provider will adjust the forecast operating expenditure in the access arrangement information so that the forecast expenditures are consistent with the capitalisation policy changes.
- (j) If there is a change in the Service Provider's approach to classifying costs as either capital expenditure or operating expenditure, the Service Provider must provide to the Regulator a detailed description of the change and a calculation of its impact on forecast and actual operating expenditure.
- (k) For the avoidance of doubt, the forecast expenditure amounts that are used as the basis for measuring efficiencies are equal to the forecast operating cost for that year as shown in the table below, with the following exception which exclude the costs listed in clause 6.4.2(g)(1)-(4).
 - (a) the carryover of cost-related efficiency gains will be calculated in a manner that takes account of any change in the scale of the activities which form the basis of the determination of the original benchmarks. The opex benchmarks will be adjusted consistent with the way in which the benchmark was determined.
- (10) Where the Service Provider changes its approach to classifying costs as either capex or opex during the Access Arrangement Period, the Service Provider will adjust the forecast opex in the table below so that the forecast expenditures are consistent with the capitalisation policy changes.
- (11) If there is a change in the Service Provider's approach to classifying costs as either capex or opex, the Service Provider must provide to the AER a detailed description of the change and a calculation of its impact on forecast and actual opex.

Opex Benchmarks:

Approved forecast operating expenditure for the efficiency carryover mechanism (\$ million, 2017)

	201 1	201 2	201 3	201 4	201	201	201	201	201	202	202	202
ForecastApproved forecast opex (\$million, 2012)	43.0	44.5	47.8		49.9 2	50.7 3	51.7 5	52.7 2	52.8	53.5	54.5	55.2

Note: excludes debt raising costs

6.4.3 Capital Expenditure Incentive Mechanism

The Capital Expenditure Sharing Scheme (CESS) operates as follows:

- (a) The annual efficiency gain or loss under the scheme will be calculated by subtracting the Service Provider's actual capex from the approved capex allowance (both net of contributions) in each year of the Access Arrangement Period. For the final year (and in some instances the penultimate year) an estimate of actual capex will be used.
- (b) For the purpose of calculating the annual efficiency gain or loss, the approved capex allowance is to be adjusted to take into account a change in the scope of activities in accordance with the approach outlined below or for any approved cost pass-through event.
- (c) The efficiency gain for year one is calculated as:

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Year 1 efficiency gain = capex allowance for Year 1 – actual capex in Year 1

- (d) The efficiency gain for each year will be discounted into its Net Present Value (NPV) at the end of the Access Arrangement Period. In doing so, it is assumed that capex occurred in the middle of the year. To calculate the total efficiency gain the annual efficiency gains in NPV terms are added:

Total efficiency gain = NPV year 1 efficiency gain + NPV year 2 efficiency gain + NPV year 3 efficiency gain + NPV year 4 efficiency gain + NPV year 5 efficiency gain.

- (e) The above calculations are represented by the following equation:

$$\text{Total efficiency gain} = \sum_{n=1}^p \frac{1}{(1 + WACC)^{n-p-0.5}} \times (F_n - A_n)$$

where:

n is the Access Arrangement year;

WACC is the average of the nominal weighted average cost of capital that are applied during each year of the Access Arrangement Period;

p is the length of the Access Arrangement Period;

F_n is the capex allowance for year *n*;

A_n is the actual capex for year *n*.

- (f) A sharing factor of 30 per cent will apply to the total efficiency gain or loss. This means the Service Provider will bear 30 per cent of any loss and will retain 30 per cent of any gain. The remaining 70 per cent will be returned to gas pipeline users.

Service Provider's sharing factor = 30%

Service Provider's share = total efficiency gain x 30%

- (g) The CESS takes into account benefits or costs that have already accrued to the Service Provider during the Access Arrangement Period in order to ensure that the power of the incentive is the same in each regulatory year. This is the financing benefit of any underspend and the financing cost of any overspend.

- (h) Capex is assumed to be incurred in the middle of each regulatory year. In the year of the underspend, the Service Provider will recover only half a year of benefit. In the following years, the Service Provider will retain a full year of benefit calculated as the underspend multiplied by the WACC. This is represented by the following equation:

$$\text{Year of financing benefit} = [1 + WACC]^{0.5} - 1 \times (F_n - A_n) + \sum_{j=1}^{n-1} WACC \times (F_j - A_j)$$

where:

j is a regulatory year in the current Access Arrangement Period prior to year *n*

F_j is the capex allowance for year *j*

A_j is actual capex for year *j*

- (i) A discount factor is applied to the benefits from each year to put the financing benefits in constant terms. The discount rate is calculated on the basis that financing benefits accrue at the end of the year. The discounted financing benefits from each year are then summed to get a net financing benefit for the Access Arrangement Period. This is calculated using the following equation:

$$\text{Net financing benefit} = \sum_{n=1}^p \frac{1}{1 + WACC^{n-p}} \times \text{year } n \text{ financing benefit}$$

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- (j) The CESS reward or penalty payable to the Service Provider is calculated by subtracting the net financing benefit from the Service Provider's share of the cumulative efficiency gain:

$$\text{CESS reward} = (\text{Service Provider share} - \text{net financing benefit}) \times \text{CPF}$$

where:

CPF is the Contingent Payment Factor calculated as:

- (1) if the Service Provider's share > net financing benefit, and
 (A) if the asset performance index (API) > 96.146, = 1;
 (B) if $74.977 < \text{API} < 96.146$, $\text{CPF} = (\text{API} - 74.977) / (96.146 - 79.278)$;
 and
 (C) if $\text{API} < 74.977$, $\text{CPF} = 0$, or
 (2) if the Service Provider's share is < net financing benefit, $\text{CPF} = 1$;
 API is the Asset Performance Index calculated for the Fifth Access Arrangement Period in accordance with Annexure A.

- (k) The CESS reward or penalty will be applied as an additional building block adjustment to the Service Provider's revenue during the Sixth Access Arrangement Period.
- (l) Actual capex for the final year of the Fifth Access Arrangement Period will not be available when the rewards or penalties for the CESS are calculated for that Access Arrangement Period. Instead, an estimate of capex will be used to calculate the efficiency gains or losses for the final year.
- (m) Prior to the revisions submission date for the Seventh Access Arrangement Period, actual capex data will be available for the final year of the Fifth Access Arrangement Period. Where the Service Provider's actual capex differs from the capex estimate used to calculate the CESS, an adjustment will be made to account for the difference. The adjustment for the final year of the Fifth Access Arrangement Period will be:

$$\text{Final year adjustment} = (A_p^* - A_p) \times \left[\frac{\text{NSP sharing factor} - 1}{(1 + \text{WACC})^{-0.5}} \right] + 1$$

where:

A_p^* is the estimate of actual capex in the final year of the Access Arrangement Period that has been used to initially calculate the CESS rewards or penalties;

A_p is actual capex in the final year of the Access Arrangement Period.

- (n) CESS payments will be adjusted where the Service Provider defers capex in the Fifth Access Arrangement Period and:
- (1) the amount of the deferred capex in the Fifth Access Arrangement Period is material; and
- (2) the amount of the estimated underspend in capex in the Fifth Access Arrangement Period is material; and
- (3) total approved forecast capex in the Sixth Access Arrangement Period is materially higher than it is likely to have been if a material amount of capex was not deferred in the Fifth Access Arrangement Period.
- If the AER determines that an adjustment will be made, the adjustment is the present value of the estimated marginal increase in forecast capex in the Sixth Access Arrangement Period attributable to capex deferred in the Fifth Access Arrangement Period.
- (o) Actual capex will be adjusted to remove any expenditure that is not rolled in to the Service Provider's regulatory asset base used to determine revenue over the Fifth Access Arrangement Period.
- (p) A discount rate will be applied to account for the time value of money. This adjustment will also be required for the penultimate year of the Access Arrangement Period where finalised actual capex figures are not available before finalising the regulatory determination.

Gas Access Arrangement Revision 2013-2017~~2018-2022~~**6.5 Depreciation for establishing the capital base as at 1 January 2023**

- (a) The depreciation schedule (straight-line) for establishing the opening capital base as at 1 January 2023 will be based on forecast operating expenditure at the asset class level approved for the Fifth Access Arrangement Period.

7 Fixed Principles**7.1 General**

- (a) Rule 99 of the National Gas Rules provides that a Full Access Arrangement may include certain principles that may be fixed for a stated period.
- (b) A fixed principle approved before the commencement of the National Gas Rules or approved by the Regulator under the National Gas Rules is binding on the Regulator and the Service Provider for the period for which the principle is fixed. The Regulator may vary or revoke a fixed principle at any time with the Service Provider's consent.
- ~~(c)~~ Each fixed principle will apply for different periods as described in this clause 7.
- (d) The period during which each fixed principle may not be changed is the Fixed Period (**Fixed Period**).

7.2 Adoption of Fixed Principles

- ~~(a)~~ In approving revisions to this Access Arrangement, ~~including for the Fifth Access Arrangement Period~~, the Regulator is to adopt the fixed principles as set out below:

- ~~(1a)~~ The Regulator will use incentive based regulation adopting a ~~CPI-X~~ - X approach and not rate of return regulation.

This fixed principle will apply until the end of the Fifth Access Arrangement Period.

- ~~(2)~~ To the extent that the Capital Base is relevant to the determination of Reference Tariffs, the value of the Capital Base at the start of the Fifth Access Arrangement Period will be adjusted in the same manner as set out in the National Gas Rules in force at 30 March 2012, using benchmark depreciation (as opposed to actual) determined by the AER for Fourth Access Arrangement Period.

~~(b) This fixed principle will apply until the end of the Fifth Access Arrangement Period.~~

- ~~(3)~~ To the extent that the application of clause 6.4 results in a positive efficiency carryover at the end of the Fourth Access Arrangement Period, the reward earned in the Fourth Access Arrangement Period is to be added to the Total Revenue and carried forward into the Fifth Access Arrangement Period, until it has been retained by the Service Provider for a period of a full six years for Years 1-4 and five years for Year 5 in accordance with clause 6.4.

This fixed principle will apply until the end of the Fifth Access Arrangement Period.

- ~~(4)~~ The Regulator will ensure that any mechanism for varying or adjusting the Haulage Reference Tariffs approved for the ~~Fourth~~Fifth Access Arrangement Period will, to the extent required to give full effect to such variation or adjustment, be carried forward into the ~~Fifth~~Sixth Access Arrangement Period.

This fixed principle will apply until the end of the ~~Fifth~~Sixth Access Arrangement Period.

- ~~(c)~~ Where a Relevant Pass Through Event occurs during an Access Arrangement Period but the impact of that Relevant Pass Through Event has not been fully recovered or reflected in adjusted Haulage Reference Tariffs and Haulage Reference Tariff Components prior to the end of that Access Arrangement Period, then the amount of the impact not fully recovered or reflected will be recovered or reflected in the next Access Arrangement Period by an adjustment to the Haulage Reference Tariffs and Haulage Reference Tariff Components for that next Access Arrangement Period.

This fixed principle will apply until the end of the Fifth Access Arrangement Period.

Gas Access Arrangement Revision ~~2013-2017~~2018-2022**8 Procedure for a Relevant Pass Through Event Variation in Reference Tariffs**

- (a) The Service Provider may notify the AERRegulator of a Relevant Pass Through Event within 90 Business Days of the Relevant Pass Through Event occurring where the costs would lead to a Positive Pass Through Amount and must notify the AERRegulator of a Relevant Pass Through Event within 90 Business Days of the Relevant Pass Through Event occurring where the costs would lead to a Negative Pass Through Amount.
- (b) If the Service Provider gives such a notice then, when the costs of the Relevant Pass Through Event incurred are known (or able to be estimated to a reasonable extent), then those costs shall be notified to the AER. When making a notification to the AER, the Service Provider will provide the AERRegulator with a statement, signed by an authorised officer of the Service Provider, verifying that the costs of the Relevant Pass Through Event are net of any payments made by an insurer or third party which partially or wholly offsets the financial impact of that event (including self ~~insurance~~-~~insuran~~€).
- (c) The AERRegulator must notify the Service Provider of its decision to approve or reject the proposed variations to its Reference Tariffs within 90 Business Days from the later of the date it receives the Service Provider's statement above, and the date it receives any additional information required by the AERRegulator. The Service Provider must provide the AERRegulator with such additional information as the AERRegulator reasonably requires for the purpose of making a determination under this clause 8 within the time reasonably specified by the AERRegulator in a notice provided to the Service Provider by the AERRegulator for that purpose.
- (d) If the AERRegulator is satisfied that the making of a determination in respect of a Relevant Pass Through Event involves issues of such complexity or difficulty that the ~~40~~90 Business Day time limit should be extended, the AERRegulator may, by written notice to the Service Provider, extend the time limit by a further period of up to 60 Business Days. The AERRegulator must give written notice to the Service Provider of that extension not later than 10 Business Days before the expiry of the ~~40~~90 Business Day time limit and such notice must set out the length of the extension and the reason the extension is ~~required~~€red.
- (e) Subject to the approval of the AERRegulator under the NGR, Reference Tariffs may be varied after one or more Relevant Pass Through Event(s) occurs.
- (f) Any such variation will take effect from the next 1 January. In making its decision on whether to approve the proposed Relevant Pass Through Event variation, the AERRegulator must take into account the following:
- ~~(a)~~(1) whether the costs to be passed through are for the delivery of Pipeline Services;
 - ~~(b)~~(2) whether the costs are incremental to costs already allowed for in Reference Tariffs;
 - ~~(c)~~(3) whether the costs to be passed through meet the relevant National Gas Rules criteria for determining the building block for total revenue in determining Reference Services;
 - ~~(d)~~(4) the efficiency of the Service Provider's decisions and actions in relation to the risk of the Relevant Pass Through Event occurring, including whether the Service Provider has failed to take any action that could reasonably be taken to reduce the magnitude of the costs incurred as a result of the Relevant Pass Through Event and whether the Service Provider has taken or omitted to take any action where such action or omission has increased the magnitude of the costs; and

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(e)(5) any other factors the ~~AER~~Regulator considers relevant and consistent with the NGR and NGL.

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The structures and proposed indicative tariff levels for each tariff for the period commencing 1 July ~~2013~~ January 2018 are outlined in the following tables. The Service Provider reserves the right to revise these tables for the period 1 July ~~2013~~ January 2018 to 31 December ~~2013~~2018 in accordance with the AERs~~Regulator's~~ final decision.

9.1 Central Zone

Postcodes: ~~3000~~3003, 3008, 3011, 3012, 3013, 3015, 3016, 3018, 3019, 3020, 3021, 3022, 3023, 3024, 3025, 3026, 3027, 3028, 3029, 3030, 3031, 3032, 3033, 3034, 3036, 3037, 3038, 3039, 3040, 3041, 3042, 3043, 3044, 3045, 3046, 3047, 3048, 3049, 3055, 3058, 3059, 3060, 3061, 3062, 3063, 3064, 3073, 3211, 3212, ~~3213~~, 3214, 3215, 3216, 3217, 3218, 3219, 3220, 3221, 3222, 3223, 3224, 3225, 3226, 3228, ~~3331~~, 3335, ~~3336~~, 3337, 3338, 3427, 3428, 3429, ~~3750~~

Tariff V Residential (TNVDC)

Distribution Fixed Tariff Component			\$0.98773045/day
Consumption Range (GJ/day)	Distribution Volume Tariff component		
	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)	
0-0.1	7.35918.6732	5.89712.2743	
> 0.1 – 0.2	5.43992034	3.71291.8861	
> 0.2 – 1.4	1.70600.9098	1.70380.8654	
> 1.4	1.06440.7142	0.58582976	

Tariff V Non Residential (TNVNC)

Distribution Fixed Tariff Component			\$0.98843206/day
Consumption Range (GJ/day)	Distribution Volume Tariff component		
	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)	
0-0.1	6.63841.4752	6.28631.4004	
> 0.1 – 0.2	4.41381.4048	4.40730.9794	
> 0.2 – 1.4	2.38351.2564	2.35620.8094	
> 1.4	0.95809429	0.91957705	

Tariff M (TNMC)

Annual MHQ (GJ/hr)	Distribution Demand Tariff component (\$/MHQ)
0-10	1731.2684820.0341
> 10 – 50	1253.7829780.9847
> 50	711.9495162.5848

Tariff D (D)

Annual MHQ (GJ/hr)	Distribution Demand Tariff component (\$/MHQ)
0-10	937.1568374.2761
> 10 – 50	640.0310356.4533
> 50	361.2439173.0543

9.2 West Zone

Postcodes: ~~3241~~, 3249, 3250, 3266, 3277, 3280, 3282, 3300, 3305, 3340, 3342, 3350, 3352, ~~3355~~, 3356, 3357, ~~3358~~, 3377, 3380, 3400, 3401, 3430, 3437, 3444, 3450, 3451, 3460, 3461, 3464, 3465, ~~3467~~, 3550, 3551, ~~3555~~, 3556

Tariff V Residential (TNVDW)

Distribution Fixed Tariff Component			\$0.98773045/day
Consumption Range (GJ/day)	Distribution Volume Tariff component		
	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)	
0-0.1	5.90104.9375	3.95831.5484	
> 0.1 – 0.2	5.40613.5391	2.71061.3767	

Tariff V Non Residential (TNVNW)

Distribution Fixed Tariff Component			\$0.98843206/day
Consumption Range (GJ/day)	Distribution Volume Tariff component		
	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)	
0-0.1	4.75622.4158	4.48041.0066	
> 0.1 – 0.2	3.97882.0345	3.81460.8478	

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> 0.2 – 1.4	<u>2.24391.1398</u>	<u>1.62330.8246</u>	> 0.2 – 1.4	<u>2.20231.1186</u>	<u>2.06260.4585</u>
> 1.4	<u>1.01590855</u>	<u>0.71951600</u>	> 1.4	<u>0.79624112</u>	<u>0.77083386</u>

Tariff M (TNMW)

Tariff D (D)

Annual MHQ (GJ/hr)	Distribution Demand Tariff component (\$/MHQ)	Annual MHQ (GJ/hr)	Distribution Demand Tariff component (\$/MHQ)
0-10	<u>1731.2684820.0341</u>	0-10	<u>937.1568374.2761</u>
> 10 – 50	<u>1253.7823780.9847</u>	> 10 – 50	<u>640.0310356.4533</u>
> 50	<u>711.9495162.5848</u>	> 50	<u>361.2439173.0543</u>

Gas Access Arrangement Revision 2013-2017/2018-2022**9.3 Adjoining Central Zone**

Postcodes: 3227

Tariff V Residential (TNVDAC)

Distribution Fixed Tariff Component		
\$0.98773045/day		
Consumption Range (GJ/day)	Distribution Volume Tariff component	
	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	10.348812.3751	8.80465.7514
> 0.1 – 0.2	8.29149050	6.84113.4747
> 0.2 – 1.4	6.30693.2035	5.31063.0508
> 1.4	4.43393.0508	4.05742.9047

Tariff V Non Residential (TNVNAC)

Distribution Fixed Tariff Component		
\$0.98843206/day		
Consumption Range (GJ/day)	Distribution Volume Tariff component	
	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	9.82565.4017	9.51385.1444
> 0.1 – 0.2	7.63465.1442	7.31444.8847
> 0.2 – 1.4	5.99244.8938	5.87754.6469
> 1.4	4.44546465	4.35544252

Tariff M (TNMAC)

Annual MHQ (GJ/hr)	Distribution Demand Tariff component (\$/MHQ)
0-10	1731.2684820.0341
> 10 – 50	1253.7823780.9847
> 50	711.9495162.5848

Tariff D (D)

Annual MHQ (GJ/hr)	Distribution Demand Tariff component (\$/MHQ)
0-10	937.1568374.2761
> 10 – 50	640.0310356.4533
> 50	361.2439173.0543

9.4 Adjoining West Zone

Postcodes: 3260, 3284, 3352*, 3363, 3364, 3431, 3434, 3435, 3437, 3438, 3440, 3441, 3442, 3551*

Tariff V Residential (TNVDAW)

Distribution Fixed Tariff Component		
\$0.98773045/day		
Consumption Range (GJ/day)	Distribution Volume Tariff component	
	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	9.28118.6393	7.45215.2503
> 0.1 – 0.2	8.61507.2410	6.90343.9426
> 0.2 – 1.4	6.22713.7356	5.29073.0122
> 1.4	4.26903.5572	4.08282.8688

Tariff V Non Residential (TNVNAW)

Distribution Fixed Tariff Component		
\$0.98843206/day		
Consumption Range (GJ/day)	Distribution Volume Tariff component	
	Peak Period (\$/GJ)	Off-peak Period (\$/GJ)
0-0.1	8.13446.1176	7.81954.7085
> 0.1 – 0.2	7.62135.7363	7.25084.4843
> 0.2 – 1.4	6.13764.8205	6.02854.1604
> 1.4	4.49981127	4.39933.9168

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Tariff M (TNMAW)

Tariff D (D)

Annual MHQ (GJ/hr)	Distribution Demand Tariff component (\$/MHQ)	Annual MHQ (GJ/hr)	Distribution Demand Tariff component (\$/MHQ)
0-10	1731.268 4820.0341	0-10	937.1568 374.2761
> 10 – 50	1253.7823 780.9847	> 10 – 50	640.034 0356.4533
> 50	711.9495 162.5848	> 50	361.2439 173.0543

*** Notes**

- (a) Postcode 3055 is shared with Envestra, AusNet Services Distribution Supply Points are in Galtes Crescent, Southam Street, Morrow Street, Hopetoun Avenue, Moreland Road, and Flannery Court.
- (b) Postcode 3551 is supplied under both West Zone and Adjoining West Zone. Adjoining West Zone rates apply to Distribution Supply Points west of Sparrowhawk Road and south of the Calder Highway and all Distribution Supply Points west of Maiden Gully Road.
- (c) Postcode 3352 is supplied under both West Zone and Adjoining West Zone. Adjoining West Zone rates apply to Distribution Supply Points in Forest Street, Gillies Road, and Olliers Road north of Western Freeway.

Billing Parameters

- (a) Distribution tariffs are charged in accordance with the billing parameters outlined in Part C of the *Access Arrangement* by AusNet Gas Services Pty Ltd (formerly TXU Networks (Gas) Pty Ltd) as varied by licence condition on 7 October 2004.
- (b) **DOMESTIC** – Domestic tariffs will be applied to premises where the predominant consumption of gas is for non-commercial or non industrial residential purposes.
- (c) **NON DOMESTIC** – Non Domestic tariffs will be applied to all premises where the predominant consumption of gas is for commercial or industrial purposes.
- (d) **TARIFF M** – A separate Operations & Maintenance (O&M) charge is not applicable to Tariff M customers. Customers may still be charged unrecovered infrastructure costs (LCC) where applicable.

Gas Access Arrangement Revision ~~2013-2017~~2018-2022**10 Initial Ancillary Reference Tariffs – 1** ~~July 2013~~January 2018

Ancillary Reference Tariff	Price (inclusive of GST)
<p>Disconnection</p> <p>Disconnection by the carrying out of work being the use of locks or plugs at a Metering Installation in order to prevent the withdrawal of Gas at the Distribution Supply Point.</p> <p><i>Disconnection means the carrying out of work to prevent the withdrawal of Gas at a Distribution Supply Point.</i></p>	\$54.60 <u>\$58.41</u>
<p>Reconnection of Meter</p> <p>Reconnection by turning on Supply, including the removal of locks or plugs used to isolate Supply or reinstallation of a Meter if it has been removed, performance of a safety check and the lighting of appliances where necessary.</p> <p><i>Turn On of service to a Distribution Supply Point which has previously been disconnected</i></p>	\$54.60 <u>\$58.41</u>
<p>Special Meter Reads</p> <p>Meter reading for a DSP in addition to the scheduled meter readings that form part of the Haulage Reference Services.</p> <p><i>Undertaken at the request of the User or Customer, not part of the periodic meter read schedule.</i></p>	\$8.46 <u>\$9.05</u>
<p>Meter and gas installation test</p>	\$163.80 <u>\$175.23</u>

Gas Access Arrangement Revision 2013-2017/2018-2022**Annexure A – Asset Performance Index**

The Asset Performance Index is calculated for the Fifth Access Arrangement period as follows:

- (1) Calculate the arithmetic average of the annual unplanned SAIDI for all customers for each of the four Calendar Years from 1 January 2018 to 31 December 2021, measured for each year t as follows:

$$\text{Unplanned SAIDI}_t = \frac{\sum_{i=1}^{12} \text{OUD}_i^t}{\sum_j^{12} C_j^t / 12}$$

where:

$\sum_{i=1}^{12} \text{OUD}_i^t$ is the summation of the total number of unplanned minutes off supply for all customers on the Service Provider's network sourced from quarterly reports submitted to Energy Safe Victoria for the 12 months in Calendar Year t

$\sum_j^{12} C_j^t / 12$ is arithmetic average of total customers of the Service Provider sourced from annual reports submitted to Energy Safe Victoria over the 12 months in Calendar Year t .

- (2) Calculate the arithmetic average of the annual unplanned SAIFI for all customers for each of the four Calendar Years from 1 January 2018 to 31 December 2021, measured for each year t as follows:

$$\text{Unplanned SAIFI}_t = \frac{\sum_{i=1}^{12} \text{OUF}_i^t}{\sum_j^{12} C_j^t / 12}$$

Where:

$\sum_{i=1}^{12} \text{OUF}_i^t$ is the summation of the total number of unplanned outages for all customers on the Service Provider's network sourced from quarterly reports submitted to Energy Safe Victoria for the 12 months in Calendar Year t

$\sum_j^{12} C_j^t / 12$ is the arithmetic average of total customers of the Service Provider sourced from annual reports submitted to Energy Safe Victoria over the 12 months in Calendar Year t .

- (3) Calculate the arithmetic average of the annual publicly reported gas leaks for mains of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria, adjusted to remove leaks identified as a result of leak surveys.
- (4) Calculate the arithmetic average of the annual publicly reported gas leaks for services of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria.
- (5) Calculate the arithmetic average of the annual publicly reported gas leaks for meters of the Service Provider for each of the four Calendar Years from 1 January 2018 to 31 December 2021, as reported to Energy Safe Victoria.
- (6) Convert each of the averages from the measures in paragraphs (1), (2), (3), (4) and (5) above into index scores using the following formula:

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$$Index_n = 200 - \left(\frac{Actual_n}{Target_n} \right) \times 100$$

where:

$Index_n$ is the index score for each measure $n = 1,2,3,4,5$ corresponding to the measures in paragraphs (1), (2), (3), (4) and (5) above respectively;

$Actual_n$ is the arithmetic average of the actual performance for each measure $n = 1,2,3,4,5$ calculated as per paragraphs (1), (2), (3), (4) and (5) above;

$Target_n$ is the target performance for each measure $n = 1,2,3,4,5$ as follows:

<u>Unplanned SAIDI</u>	$n = 1$	$Target_1 = 891.633$
<u>Unplanned SAIFI</u>	$n = 2$	$Target_2 = 20.519$
<u>Mains leaks</u>	$n = 3$	$Target_3 = 0.090$
<u>Services leaks</u>	$n = 4$	$Target_4 = 5.520$
<u>Meter leaks</u>	$n = 5$	$Target_5 = 15.986$

(7) Calculate the weighted average of the index scores calculated in paragraph (6) above for each of the measures $n = 1,2,3,4,5$ according to the following weights:

<u>Unplanned SAIDI</u>	<u>25.0%</u>
<u>Unplanned SAIFI</u>	<u>25.0%</u>
<u>Mains leaks</u>	<u>20.4%</u>
<u>Services leaks</u>	<u>23.0%</u>
<u>Meter leaks</u>	<u>6.6%</u>

The resulting average is the **Asset Performance Index**.