

Access arrangement

JGN's NSW gas distribution networks

1 July 2015 – 30 June 2020

[June 2015]

**(Incorporating revisions ~~that address matters raised~~
~~in the~~ required by AER Draft Final Decision –
submitted 27/02/15 June 2015)**

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JEMENA GAS NETWORKS (NSW) LTD

ACCESS ARRANGEMENT

1 Introduction

1.1 Access Arrangement

This document sets out the Access Arrangement that applies to the Network on and from the Effective Date. It contains revisions that have been made to the 2010-15 Access Arrangement, in accordance with the National Gas Law and the National Gas Rules. Supporting information is provided in the Access Arrangement Information that has been submitted as a separate document. [There is also supporting information in the AER's Final Decision.](#)

1.2 The Network

- (a) As at the Effective Date, the Network consists of approximately 25,400 kilometres of natural gas distribution systems in NSW with over 1,200,000 customer connections to these systems. A description of the Network is contained below and can also be found at <http://www.jemena.com.au>.
- (b) The Network is made up of four Covered Pipelines:
 - (i) NSW Distribution System;
 - (ii) Central West Distribution System;
 - (iii) Wilton-Newcastle trunk pipeline (the '**northern trunk**'); and
 - (iv) Wilton-Wollongong trunk pipeline (the '**southern trunk**').
- (c) The Network provides gas to consumers across Sydney, Newcastle, and Wollongong, as well as to more than 20 country centres.
- (d) The Service Provider is the authorised reticulator for the NSW Distribution System and the Central West Distribution System, under the Gas Supply Act.
- (e) The northern and southern trunks are part of the gas distribution system in the Newcastle, Sydney, Central Coast and Wollongong areas. On 29 June 2009, the NCC approved the reclassification of these trunk pipelines as distribution pipelines.
- (f) The northern trunk consists of the following four pipeline sections, between Wilton and Newcastle, each of which is licensed under the Pipelines Act:
 - (i) Wilton to Horsley Park Natural Gas Pipeline (Pipeline Licence No. 1);
 - (ii) Horsley Park to Plumpton Natural Gas Pipeline (Pipeline Licence No. 3);
 - (iii) Plumpton to Killingworth Natural Gas Pipeline (Pipeline Licence No. 7);
 - (iv) Killingworth to Kooragang Island Natural Gas Pipeline (Pipeline Licence No. 8).
- (g) The southern trunk consists of one pipeline section between Wilton and Wollongong, which is licensed under the Pipelines Act:

- (i) Wilton to Wollongong Natural Gas Pipeline (Pipeline Licence No. 2).
- (h) Natural gas is delivered into the Network from the Moomba-Sydney Pipeline and its laterals, and from the Jemena-owned Eastern Gas Pipeline. A list of receipt points is set out at Schedule 11. This list may be updated by the Service Provider from time to time by notice to Users.
- (i) Schedule 10 provides maps which describe the location of the Network as at the Effective Date.

1.3 Review Submission Date

The review submission date is 30 June 2019.

1.4 Revision Commencement Date

The revision commencement date is 1 July 2020.

1.5 Definitions and interpretation

- (a) In this Access Arrangement, a term or expression starting with a capital letter:
 - (i) which is defined in Schedule 1 of this Access Arrangement, has the meaning given to it in Schedule 1; or
 - (ii) if not defined in Schedule 1 of this Access Arrangement, has the meaning given to it in the Reference Service Agreement,unless the context otherwise requires.
- (b) The interpretation clause in Schedule 1 sets out rules of interpretation for this Access Arrangement.

2 Services policy

2.1 The Services

- (a) The Service Provider provides the following Services on the Network:
 - (i) the reference service, being the Haulage Reference Service; and
 - (ii) Non-Reference Services.
- (b) A User or Prospective User who seeks to obtain the Reference Service or a Non-Reference Service must comply with the Request for Service procedures set out in Schedule 6 regardless of whether the User or Prospective User seeks to obtain a Service for the first time or a change to an existing Service to a Delivery Point.
- (c) The Service Provider's ability to offer a Service in response to a Request is subject to the Queuing Policy.
- (d) All Users of a Service are required to enter into a Service Agreement specific to the relevant User and that Service before receiving the Service and must agree to be bound by the provisions of the Operational Schedules in Schedule 7.

2.2 Haulage Reference Service

- (a) The Service Provider will make the Haulage Reference Service available to Users and Prospective Users.
- (b) The Haulage Reference Service is a Service for:
 - (i) the transportation of Gas by the Service Provider through the Network to a single eligible Delivery Point for use and consumption within the premises served by that Delivery Point;
 - (ii) meter reading and associated data activities, and the provision and maintenance of a standard metering installation at the Delivery Point as appropriate for the required capacity and meter reading frequency; and
 - (iii) ancillary activities as set out in the Reference Tariff Schedule, as may be requested by a User.
- (c) A delivery point is eligible for a Haulage Reference Service if:
 - (i) it is a Delivery Point existing on the Network to which a service designated as a reference service under the 2010-15 Access Arrangement is provided on the Effective Date; or
 - (ii) it is a new delivery point, established on or after the Effective Date, that is served from existing Network facilities, where:
 - (A) the maximum allowable operating pressure is less than or equal to 500 kPa and the Service Provider reasonably expects that the delivery point will consume less than 10 TJ per annum; or
 - (B) the maximum allowable operating pressure is less than or equal to 1,050 kPa and the Service Provider reasonably expects that the delivery point will consume 10 TJ per annum or greater.

2.3 Terms and Conditions

- (a) Subject to clause 2.3(b), the terms and conditions upon which the Service Provider will supply the Haulage Reference Service are set out in the Reference Service Agreement in Schedule 4.
- (b) The Service Provider may seek the AER's approval to amend the terms of the Reference Service Agreement during the Access Arrangement Period in accordance with Division 10 of Part 8 of the National Gas Rules.

2.4 Non-Reference Services

The Service Provider offers the following Non-Reference Services on the Network to Users and Prospective Users:

- (a) the Interconnection of Embedded Network Service, which is described in clause 2.5 below; and
- (b) Negotiated Services, which are described in clause 2.6 below.

2.5 Interconnection of Embedded Network Service

The Interconnection of Embedded Network Service is a service provided by the Service Provider to an Embedded Network Operator for the establishment of a single Delivery Point on an Embedded Network connected to the Network, on the terms and conditions specified by the Service Provider upon application for this service ordinarily including those contained in Schedule 5.

2.6 Negotiated Services

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

3 Reference Tariff variation mechanism

3.1 Initial Reference Tariffs

- (a) The Initial Reference Tariffs for the Reference Service are set out in the Initial Reference Tariff Schedule. These will apply on and from the Effective Date, until varied in accordance with this clause 3.
- (b) The Service Provider may vary Reference Tariffs at any time during the Access Arrangement Period with the approval of the AER in accordance with this clause 3. Such variations may be effected through:
 - (i) Reference Tariff components, elements or variables comprised within any Reference Tariff;
 - (ii) the introduction of a new Reference Tariff (to apply in place of any pre-existing Reference Tariff);
 - (iii) the withdrawal of any Reference Tariff; or
 - (iv) any combination of these changes.

3.2 Annual Reference Tariff variation mechanism: Haulage Reference Tariffs

- (a) Where the Service Provider proposes to vary Reference Tariffs to apply from the start of the next Financial Year, the mechanisms set out below will apply.
- (b) The Service Provider may propose to vary Reference Tariffs consistent with the following tariff basket price control formula:

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

and rebalancing side constraint formula, for each Reference Tariff:

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

where the Service Provider has n Reference Tariffs, which each have up to m tariff components, and where:

- t is the Financial Year for which the tariffs are being set;
- p_t^{xy} is the proposed tariff for component y of Reference Tariff x in Financial Year t , i.e. the new tariff to apply from the commencement of Financial Year t ;
- p_{t-1}^{xy} is the tariff for component y of Reference Tariff x that is being charged at the time the Variation Notice is submitted to the AER for assessment;

q_{t-2}^{xy} is the quantity of component y of Reference Tariff x that was sold in Financial Year $t-2$;

CPI_t means:

- (i) for the Financial Year beginning 1 July 2014 and ending 30 June 2015, 1.72 per cent;
- (ii) for Financial Years beginning after 30 June 2015:
 - (A) the CPI for the December Quarter immediately preceding the start of the relevant Financial Year; divided by
 - (B) the CPI for the December Quarter immediately preceding the December Quarter referred to in paragraph (i);

minus one,

provided that if the Australian Bureau of Statistics does not, or ceases to, calculate and publish the CPI, then in this Access Arrangement CPI will mean an inflation index or measure agreed between the AER and the Service Provider;

X_t means the X factor for each Financial Year, determined in accordance with the JGN Revenue Model, updated for the return on debt in accordance with [clause section 5](#);

A_t is the automatic adjustment factor calculated in accordance with Schedule 3; and

PT_t is the Cost Pass Through factor calculated in accordance with Schedule 3.

3.3 Intra-year Reference Tariff variation mechanism

The Service Provider can propose to vary Reference Tariffs during a Financial Year to apply at a date prior to the start of the next Financial Year, including for the purposes of passing-through an amount relating to a Cost Pass Through Event, as long as the Service Provider complies with the tariff basket price control formula set out in clause 3.2(b), and making such adjustments as necessary to vary the Reference Tariff for the remainder of the Financial Year.

3.4 Cost pass through

Cost Pass Through Events

(a) The following are Cost Pass Through Events:

- (i) Terrorism Event;
- (ii) Natural Disaster Event;
- ~~(iii) Gas Supply Shortfall Event;~~
- (iii) [\[DELETED\]](#)

- (iv) Insurance Cap Event;
- (v) Insurer Credit Risk Event;
- (vi) Network User Failure Event;
- (vii) Regulatory Change Event; and
- (viii) Service Standard Event.

Notification and AER determination of Cost Pass Through Events

~~(b)~~—The Service Provider may seek the approval of the AER to pass through costs where:

~~(i)(b)~~ as a result of a Cost Pass Through Event ~~(other than a Network User Failure Event)~~, the Service Provider has incurred, or is likely to incur, higher costs in providing the Reference Service than it would have incurred but for that event and ~~those costs;~~ the change in costs (as opposed to the revenue impact) that the Service Provider has incurred and is likely to incur in any regulatory year of the access arrangement period, as a result of that event, exceeds one per cent of the smoothed total revenue for that regulatory year approved by the AER.

~~(A)~~—~~in total over the Access Arrangement Period, equal to or greater than 0.5 per cent of the smoothed forecast revenue specified in the Access Arrangement Information; or~~

~~(B)~~—~~in at least one of the Financial Years of the Access Arrangement Period that the costs are incurred, equal to or greater than one per cent of the smoothed forecast revenue specified in the Access Arrangement Information for the corresponding year that the costs are incurred; or~~

~~(ii)~~—~~as a result of a Network User Failure Event, the Service Provider has incurred or is likely to incur higher costs in providing the Reference Service than it would have incurred but for that event, regardless of whether those costs satisfy the thresholds in clause or above.~~

~~(i)~~ [DELETED]

~~(A)~~ [DELETED]

~~(B)~~ [DELETED]

~~(ii)~~ [DELETED].

(c) The AER may require the Service Provider to pass through costs where, as a result of a Cost Pass Through Event, the Service Provider has incurred, or is likely to incur, lower costs in providing the Reference Service than it would have incurred but for that event and ~~those costs are or are reasonably estimated to be the~~ change in costs (as opposed to the revenue impact) that the Service Provider has incurred and is likely to incur in any regulatory year of the access arrangement period, as a result of that event, is or is reasonably estimated to exceed one per cent of the smoothed total revenue for that regulatory year approved by the AER.

~~(i) in total over the Access Arrangement Period, equal to or greater than 0.5 per cent of the smoothed forecast revenue specified in the Access Arrangement Information; or~~

~~(ii) in at least one of the years of the Access Arrangement Period that the costs are incurred, equal to or greater than one per cent of the smoothed forecast revenue specified in the Access Arrangement Information for the corresponding year that the costs are incurred.~~

~~(i) [DELETED]~~

~~(ii) [DELETED].~~

- (d) If the Service Provider wishes to seek the approval of the AER to pass through costs pursuant to clause ~~or, 3.4(b)~~, the Service Provider must notify the AER within 90 Business Days of becoming aware that the relevant Cost Pass Through Event has occurred. Notification under this clause 3.4(d) is not an application to vary Reference Tariffs.
- (e) If a Cost Pass Through Event has occurred, or is likely to occur, which may or is likely to meet the relevant thresholds identified in clause 3.4(c), the Service Provider must notify the AER within 90 Business Days of becoming aware that the relevant Cost Pass Through Event has occurred. Notification under this clause 3.4(e) is not an application to vary Reference Tariffs.
- (f) The notification to the AER that a Cost Pass Through Event has occurred or is likely to occur pursuant to clause 3.4(d) or 3.4(e) is to take the form of a written statement which specifies:
- (i) the details of the Cost Pass Through Event; and
 - (ii) the date on which the Cost Pass Through Event occurred.
- (g) Where the costs that are, or are likely to be, incurred, as a result of the Cost Pass Through Event are known (or able to be estimated to a reasonable extent), then those costs shall be notified to the AER together with the matters specified in clause 3.4(f).
- (h) Where the costs that have been, or are likely to be, incurred as a result of the Cost Pass Through Event are not known in whole or in part (or not able to be estimated to a reasonable extent) such that the costs cannot be included in the notification pursuant to clause 3.4(f), the Service Provider, must, as soon as practicable after the costs are known or can be estimated to a reasonable extent, provide a supplementary notice to the AER setting out those costs.
- (i) Within 40 Business Days of a Service Provider notifying the AER of the costs that have been or are likely to be incurred as a result of a Cost Pass Through Event (pursuant to either clause 3.4(g) or 3.4(h), as relevant), the AER must notify the Service Provider of its determination as to whether it considers a Cost Pass Through Event has occurred which satisfies the thresholds in clause ~~3.4(b)~~ or clause 3.4(c), as relevant. The AER's determination must set out the amount that it has determined should be passed through in Reference Tariffs in respect of that Cost Pass Through Event (**Determined Pass Through Amount**).
- (j) In making a determination pursuant to clause 3.4(i), the AER must take into account:

- (i) the matters and proposals set out in any statement given to the AER by the Service Provider under clause 3.4(f);
 - (ii) the change in the costs in the delivery of the Reference Service arising, or estimated to arise, as a consequence of the Cost Pass Through Event, as given to the AER by the Service Provider pursuant to clause 3.4(g) or 3.4(h), as relevant;
 - (iii) the efficiency of the Service Provider's decisions and actions in relation to the risk of the Cost Pass Through Event, including whether the Service Provider:
 - (A) has failed to take any action that could reasonably have been taken in respect of that event; or
 - (B) has taken or omitted to take any action in response to the event, where such action or omission has materially increased the magnitude of the change in costs in respect of the event;
 - (iv) the time cost of money based on the WACC for the Service Provider;
 - (v) the need to ensure that the Service Provider only recovers any actual or likely increment in costs to the extent that such increment is solely as a consequence of a Cost Pass Through Event;
 - (vi) whether the costs of the Cost Pass Through Event have already been factored into the calculation of the Service Provider's annual revenue requirement, including in the calculation of the automatic adjustment factor; and
 - (vii) any other factors the AER considers relevant and consistent with the National Gas Law and National Gas Rules.
- (k) Subject to clause 3.4(l), the period in clause 3.4(i) can be extended:
- (i) by the time taken by the AER to obtain information from the Service Provider, obtain expert advice or consult about the notification in order to make a determination pursuant to clause 3.4(i); and/or
 - (ii) if the AER is satisfied that the making of a determination pursuant to clause 3.4(i) involves issues of such complexity or difficulty that the time limit fixed by clause 3.4(i) should be extended or further extended (if already extended by clause 3.4(k)(i) above). The AER may extend that time limit by a further period provided it has given written notice to the Service Provider of that extension not later than 10 Business Days before the expiry of that time limit.
- (l) Notwithstanding clause 3.4(k), there is an absolute time limit of 90 Business Days for the AER to make a determination pursuant to clause 3.4(i).
- (m) If the AER does not make a determination within the time limit fixed by clause 3.4(i) (if relevant, as extended by clause 3.4(k)) or clause 3.4(l) then:
- (i) in the case of a Cost Pass Through Event which results in an increase in costs, the AER is taken to have determined that the amount to be passed through is the amount set out in the Service Provider's notification (provided

that if no amount is set out in such notification, the AER must go on to make a determination notwithstanding the time limit has expired);

- (ii) in the case of a Cost Pass Through Event which results in a decrease in costs, the AER is taken to have determined that the amount to be passed through is zero.
- (n) Following the AER's determination, the Service Provider may, in the case of an event which increases costs, and must, in the case of an event which decreases costs, include some or all of that amount in any annual or intra-year Variation Notice.

3.5 Cost pass through events from immediately prior access arrangement period

- (a) Where a cost pass through event (as that term is defined in the access arrangement that applied to the Network in the immediately prior access arrangement period) occurs during the immediately prior access arrangement period and the increase or decrease in costs associated with the event was not passed through in Reference Tariffs in the immediately prior access arrangement period and is not included in the calculation of the automatic adjustment factor in the subsequent access arrangement period:
 - (i) where the AER has made a decision as to the amount that should be passed through as a consequence of the cost pass through event, the Service Provider may, in the case of an event which increases costs, and must, in the case of an event which decreases costs, include some or all of that amount in any annual variation notice or intra-year variation notice in the access arrangement period in which the AER makes its decision or, to the extent it is impracticable to do so, in the subsequent access arrangement period;
 - (ii) where the timing of the event was such that it was notified to the AER but the AER had not made a decision on the amount that should be passed through as a consequence of the cost pass through event before the end of the access arrangement period in which the event occurred, the AER must make a decision on the amount that should be passed through in respect of that event in the subsequent access arrangement period. Following the AER's decision (pursuant to the access arrangement that applied to the access arrangement period in which the event occurred), the Service Provider may, in the case of an event which increases costs, and must, in the case of an event which decreases costs, include some or all of that amount in any annual variation notice or intra-year variation notice in that subsequent access arrangement period;
 - (iii) where the timing of the event was such that it was not notified to the AER in the immediately prior access arrangement period, the Service Provider may in the case of an event which increases costs, and must, in the case of an event which decreases costs, notify the AER of the event and make an application to pass through the increase or decrease in costs associated with that event. The notification by the Service Provider and AER's decision is to be made in accordance with the procedure set out in the access arrangement that applied in the immediately prior access arrangement period, but applying the relevant thresholds in the access arrangement that applies at the time at which the Service Provider notifies the AER. Following the AER's decision, the Service Provider may, in the case of an event which increases costs, and must, in the case of an event which decreases costs, include some or all of that amount in any annual variation

notice or intra-year variation notice in that subsequent access arrangement period.

- (b) The principle in this clause 3.5 (that costs associated with cost pass through events in one access arrangement period which are not passed through in that period may be passed through in a later access arrangement period) is a fixed principle (as provided for in Rule 99 of the National Gas Rules). This fixed principle remains in force for the Access Arrangement Period covered by this Access Arrangement. ~~The principle is also fixed for the next access arrangement period.~~

3.6 Reference Tariff variation procedures

Annual Variation Notice

- (a) If the Service Provider proposes to vary one or more Reference Tariffs to apply from the start of the next Financial Year, the Service Provider will submit a Variation Notice to the AER on or before 15 March or the next closest Business Day prior to the commencement of the next Financial Year that:
 - (i) includes a proposed revised Reference Tariff Schedule;
 - (ii) states the effective date of the proposed variation;
 - (iii) demonstrates and explains how the proposal complies with the annual Reference Tariff variation mechanism specified in clause 3.2;
 - (iv) includes a statement to support the Gas Quantity inputs in the annual Reference Tariff variation mechanism. The statement will be independently audited or verified, and the Quantity input must reflect the most recent actual Financial Year Quantity available at the time of submitting the Variation Notice. The actual Quantity will be provided as four quarters of Gas Quantity data reconciling to an annual total Gas Quantity;
 - (v) sets out any Determined Pass Through Amount the Service Provider proposes to pass through in whole or in part in the next Financial Year; and
 - (vi) sets out any pass through amounts arising from cost pass through events (as that term is defined in the access arrangement applying to this Network in the immediately prior access arrangement period) occurring in the immediately prior access arrangement period that the Service Provider is proposing to pass through in whole or in part in the next Financial Year.

3.7 Intra-year Variation Notice

- (a) If the Service Provider proposes in any Financial Year to vary one or more Reference Tariffs to apply at a date prior to the start of the next Financial Year, the Service Provider will submit a Variation Notice to the AER at least 50 Business Days prior to the date upon which it intends the varied Reference Tariffs to come into effect, that:
 - (i) includes a proposed revised Reference Tariff Schedule;
 - (ii) states the effective date of the proposed variation;
 - (iii) demonstrates and explains how the proposal complies with the intra-year Reference Tariff variation mechanism, as set out in clause 3.3;

- (iv) includes a statement to support the Gas Quantity inputs in the Reference Tariff variation mechanism. The statement will be independently audited or verified, and the Gas Quantity inputs will reflect the most recent actual Quantity available at the time of submitting the Variation Notice;
- (v) if the intra-year variation is for the purposes of passing through an amount relating to a Cost Pass Through Event, sets out any Determined Pass Through Amount the Service Provider proposes to pass through in whole or in part; and
- (vi) sets out any pass through amounts arising from cost pass through events (as that term is defined in the access arrangement applying to this Network in the immediately prior access arrangement period) occurring in the immediately prior access arrangement period that the Service Provider is proposing to pass through in whole or in part.

3.8 Variation Notice assessment

- (a) Within 30 Business Days of receiving a Service Provider's Variation Notice, the AER will inform the Service Provider in writing of whether or not it has approved the proposed variation(s) to Reference Tariffs in the Service Provider's Variation Notice as compliant with the relevant Reference Tariff variation mechanism(s).
- (b) The AER must approve the proposed variation(s) to Reference Tariffs if they are compliant with the relevant Reference Tariff variation mechanism(s).
- (c) The 30 Business Day period may be extended (by giving written notice to the Service Provider) to account for the time taken by the AER to obtain further information from the Service Provider about the Variation Notice, obtain expert advice or to consult about the Variation Notice. There is an absolute time limit of 50 Business Days for the AER to complete the assessment of a Variation Notice.
- (d) If the AER fails to provide the Service Provider with written notification of its decision within 50 Business Days of receiving the Service Provider's Variation Notice, the AER will be deemed to have approved the variation proposed in the Variation Notice.
- (e) If the AER declines to approve any part of the proposal in the Variation Notice, the AER must provide the Service Provider with a written statement of reasons for that decision at the time it informs the Service Provider of its decision.
- (f) In the event that:
 - (i) the Service Provider does not submit proposed Reference Tariffs to apply from the start of the next Financial Year t in accordance with the procedure set out in clause 3.6(a); or
 - (ii) the AER decides that any part of the proposal in an annual Variation Notice is not compliant with the relevant Reference Tariff variation mechanism for a new Financial Year t ,

the AER will determine the Reference Tariffs for the Financial Year t that are compliant with the annual Reference Tariff variation mechanism by scaling all Reference Tariffs for Financial Year $t-1$, in the case of clause 3.8(f)(i) above, or non-compliant Reference Tariffs in the case of clause 3.8(f)(ii) those Reference Tariffs applicable in Financial Year $t-1$ in respect of which the AER has disallowed

the Service Provider's proposed variations for Financial Year t , through application of the following formula:

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

where CPI_t , X_t , A_t and PT_t are as defined in clause 3.2(b).

- (g) For an intra-year Reference Tariff variation the AER will vary Reference Tariffs consistent with clause 3.3.
- (h) In the event that the AER decides that any part of the proposal in an intra-year Variation Notice is not compliant with clause 3.3, the Reference Tariffs will not be varied.
- (i) If a Determined Pass Through Amount is passed-through in Reference Tariffs under an intra-year variation, this amount is excluded from consideration for the purposes of calculating PT_t for any annual Reference Tariff variation proposed for the next Financial Year.

3.9 Revised Reference Tariff Schedule

- (a) Where Reference Tariffs are varied in accordance with clause 3.6, the Service Provider will publish a revised Reference Tariff Schedule on the Service Provider's website (which will replace the previously published version).
- (b) The revised Reference Tariff Schedule, including the changed Reference Tariffs, will take effect from the date specified in that revised Reference Tariff Schedule.

3.10 Other relevant matters

- (a) The Service Provider determines its Reference Tariffs based on a revenue requirement that uses a building block approach, which calculates total revenues for each Financial Year of the Access Arrangement Period on the basis that depreciation for establishing the opening Capital Base for the current Access Arrangement Period is based on forecast regulatory depreciation.
- (b) It is a fixed principle (as provided for in Rule 99 of the National Gas Rules) that depreciation for establishing the opening Capital Base will be based on forecast regulatory depreciation. This fixed principle remains in force for the Access Arrangement Period covered by this Access Arrangement. This principle is also fixed for the next access arrangement period.
- (c) In applying a Reference Tariff variation mechanism the Service Provider will adopt the following rounding conventions:
 - (i) all proposed Reference Tariff components, elements or variables will be rounded before being applied in a tariff variation formula; and
 - (ii) the number of decimal places used for rounding a component will be consistent with that used for the relevant Reference Tariff component, element or variable.
- (d) Where a clerical mistake, an accidental slip or omission, or a miscalculation, has been identified in the application of the annual Reference Tariff variation mechanism that applied in Financial Year $t-1$, that mistake, slip, omission or miscalculation may be corrected for the purposes of determining the value of

Reference Tariff x in the application of the annual Reference Tariff variation mechanism for Financial Year t .

- (e) For the avoidance of doubt:
- (i) to the extent the calculation of a Reference Tariff or component, element or variable of a Reference Tariff is based on a forecast or estimate, the fact that the actual amount of the parameter being forecast or estimated is different to the forecast or estimated amount does not constitute a mistake, slip, omission or miscalculation;
 - (ii) to the extent the Service Provider may have over or under recovered revenue as a consequence of a mistake, slip, omission or miscalculation being made in relation to the setting of a tariff that has been approved by the AER, no adjustment may be made to the Reference Tariffs or component, element or variable of a Reference Tariff under this clause 3.10(e)(ii) to reflect any over or under recovery amount; and
 - (iii) the Service Provider may submit in an annual Variation Notice, a correction for past clerical mistakes, accidental slips or omissions or miscalculations. The AER may also make the Service Provider aware that a past clerical mistake, accidental slips or omissions or miscalculations has occurred and require all future tariff variation notifications to take account of that past clerical mistake, accidental slip or omission or miscalculation. The Service Provider may consult with the AER on past clerical mistakes, accidental slips or omissions or miscalculations.

4 Tariff Classes

4.1 Tariff Class Assignment

- (a) The Service Provider will assign each Delivery Point that receives a Haulage Reference Service with a Tariff Class in accordance with the tariff assignment criteria set out in the Reference Tariff Schedule. The Initial Tariff Classes are set out in the Initial Reference Tariff Schedule.
- (b) The assigned Tariff Class will determine which Reference Tariffs are payable by a User or to be paid by a Prospective User for receipt of a Haulage Reference Service at a specific Delivery Point, in accordance with the Reference Tariff Schedule.
- (c) Where a Delivery Point is eligible for more than one Tariff Class in accordance with the tariff assignment criteria set out in the Reference Tariff Schedule, the User or Prospective User may nominate in its Request for Service the Tariff Class to which it wants its Delivery Point assigned. The Service Provider may refuse such a nomination by a User or Prospective User if it does not consider the Delivery Point to be eligible for the Tariff Class nominated.
- (d) On request, a User or Prospective User must provide the Service Provider with sufficient information to enable the Service Provider to apply the tariff assignment criteria set out in the Reference Tariff Schedule and assign each Delivery Point that receives a Haulage Reference Service with a Tariff Class.

4.2 Tariff Class Re-assignment

- (a) The Service Provider may re-assign a Delivery Point to one or more different Tariff Classes in accordance with the tariff assignment criteria set out in the Reference Tariff Schedule at any time where:
 - (i) the Delivery Point has previously been wrongly assigned to a Tariff Class;
 - (ii) the Delivery Point no longer qualifies for the assigned Tariff Class; or
 - (iii) the Tariff Class has been withdrawn.
- (b) A User may request re-assignment of a Tariff Class for the Delivery Point:
 - (i) at any time if it can demonstrate to the Service Provider's reasonable satisfaction that there has been a change in Energy requirements of an end customer(s) who is supplied with, and consumes, Energy at the premises served by the Delivery Point, in which case re-assignment may be requested based on that change; and
 - (ii) for any other reason, but not more than once a Year in respect of the same Delivery Point.
- (c) The Service Provider will determine a User's request for re-assignment of a Delivery Point in accordance with the tariff assignment criteria set out in the Reference Tariff Schedule. The Service Provider will inform the User of its decision in respect of the request for re-assignment. If the Service Provider decides not to re-assign a Delivery Point or decides to re-assign a Delivery Point to a Tariff Class other than that proposed by the User, the Service Provider must inform the User of its reasons for the decision.

5 Return on debt and averaging period nomination

5.1 Return on debt formula

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

- (a) For Financial Year 2015-16: $kd_{2015-16} = T_{2015}R_{2015-16}$;
- (b) For Financial Year 2016-17: $kd_{2016-17} = (0.9 \times T_{2016-17}R_{2015-16}) + (0.1 \times R_{2016-17})$;
- (c) For Financial Year 2017-18: $kd_{2017-18} = (0.8 \times T_{2017-18}R_{2015-16}) + (0.1 \times R_{2016-17}) + (0.1 \times R_{2017-18})$;
- (d) For Financial Year 2018-19: $kd_{2018-19} = (0.7 \times T_{2018-19}R_{2015-16}) + (0.1 \times R_{2016-17}) + (0.1 \times R_{2017-18}) + (0.1 \times R_{2018-19})$;
- (e) For Financial Year 2019-20: $kd_{2019-20} = (0.6 \times T_{2019-20}R_{2015-16}) + (0.1 \times R_{2016-17}) + (0.1 \times R_{2017-18}) + (0.1 \times R_{2018-19}) + (0.1 \times R_{2019-20})$,

where:

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

$T_{2015-16}$ is [5.33 per cent];

$T_{2016-17}$ is [5.54 per cent];

$T_{2017-18}$ is [5.79 per cent];

$T_{2018-19}$ is [5.97 per cent];

$T_{2019-20}$ is [5.76 per cent]; and and

R_t is the annual return on debt observation for each Financial Year t of the Access Arrangement Period (other than Financial Year 2015-16), calculated in accordance with [section 5 clauses to 5.4. For Financial Year 2015-16, \$R_t = 4.28\$ per cent.](#)

5.2 Calculation of the annual return on debt observation

- (a) ~~The set~~ The return on debt observation for each Financial Year will be calculated by automatic application of independent Data Sources with relevant the following formula. This requires three stages:
 - (i) ~~the~~ the adjusted RBA estimate
 - (ii) ~~the~~ the adjusted BVAL estimate
 - (iii) ~~the~~ the final estimate—where the AER combines its implementations of the RBA estimate and the BVAL estimate.
- (b) ~~These formula steps relate to the approach specified in the AER's Final Decision . In the event that data availableavailability changes during the access arrangement period, the formulas below will change to reflect the contingencies set out in section 5.4.~~

Calculation of the adjusted RBA estimate

- (c) Download RBA table F3—'Aggregate measures of Australian corporate bond yields' from the RBA website.
- (d) 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 is to be identified as comprising all sources of published yield information for corporate bonds which are well recognised and used by market practitioners, and which publish information on estimated yields for corporate bonds in the BBB credit rating band up to at least a seven year term to maturity for at least one Business Day during debt
- ~~(a)(ii) to the first published RBA date following the conclusion of the nominated averaging period. For the avoidance of doubt this may include: for debt~~
- (iii) all published dates between i. and ii.
- (e) Download, from RBA table F16—'Indicative Mid Rates of Commonwealth Government Securities - 2013 to Current', daily yields on CGSs for dates within the service provider's averaging period.
- (f) 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 should be done using the following formula:
- (i)
$$\text{yield}_{\text{interpolated}} = \text{yield}_{\text{lower straddle bond}} + (\text{yield}_{\text{upper straddle bond}} - \text{yield}_{\text{lower straddle bond}}) * (\text{date}_{10 \text{ years from interpolation date}} - \text{maturity date}_{\text{lower straddle bond}}) / (\text{maturity date}_{\text{upper straddle bond}} - \text{maturity date}_{\text{lower straddle bond}}).$$
- (g) Linearly extrapolate the published RBA 10 year yield (from step 5.2(d)) from its published effective term to an effective term of 10 years using the formula in schedule 8—clause 1.1.
- (h) Linearly extrapolate the published RBA 7 year yield (from step 5.2(d)) from its published effective term to an effective term of 7 years using the formula in schedule 8—clause 1.2(b).
- (i) 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 step 5.2(g). These are the adjusted RBA 10 year spreads.
- (j) Obtain daily RBA spread estimates by linear interpolation of the adjusted RBA spreads (from steps 5.2(g) and 5.2(h)) for both 7 and 10 year terms between the published dates identified in step 5.2(d). Use the adjusted RBA spread estimates as calculated in step 5.2(i). This should be done using the following formula:
- (i)
$$\text{spread}_{\text{interpolated}} = \text{spread}_{\text{first straddling publication date}} + (\text{date}_{\text{interpolation}} - \text{date}_{\text{first straddling publication date}}) * (\text{spread}_{\text{second straddling publication date}} - \text{spread}_{\text{first straddling publication date}}) / (\text{date}_{\text{second straddling publication date}} - \text{date}_{\text{first straddling publication date}}).$$
- (k) 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.

(l) Add to these daily spreads (from step 5.2(j)), daily interpolated estimates of the CGS (from step 5.2(f)) for all business days in the service providers 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.

(m) Convert the interpolated daily yield estimates (from step 5.2(l)) to effective annual rates, using the formula:

(i) effective annual rate = $((1 + \text{yield} / 200)^2 - 1) * 100$

(n) 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.

Calculation of the adjusted BVAL estimate

(o) 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 curve (BVCSAB07 index) for all business days in the Service Provider's averaging period.

(p) 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 steps 5.2(g) and 5.2(h) of the RBA process). This is the extrapolated daily estimate of the BVAL 10 year yield.

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

(i) effective annual rate = $((1 + \text{yield} / 200)^2 - 1) * 100$

(r) 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.

Final estimate

(s) Take the simple average of the adjusted RBA estimate (from step 5.2(n) in the RBA data section) and the adjusted BVAL estimate (from step 5.2(r) in the BVAL data section). This is the annual estimate of the return on debt.

(i) ~~For the purposes of clause 5.2 the Bloomberg BBB BVAL curve;~~

(ii) ~~the RBA aggregate measures of Australian BBB corporate bond yields; and~~

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

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

- ~~(b) For each Independent Data Source with relevant data available during the nominated averaging period, estimated yield data is to be sourced for the BBB credit rating band at each available maturity up to ten years, for each Business Day during the nominated averaging period, by:~~
- ~~(i) where the Independent Data Source provides data on estimated yields for the BBB credit rating band for maturities up to and including ten years for each Business Day of the nominated averaging period, yield estimates for each Business Day are to be directly sourced from the Independent Data Source;~~
 - ~~(ii) where the Independent Data Source does not provide data on estimated yields for the BBB credit rating band for all Business Days during the nominated averaging period, yield estimates for those Business Days for which data is not provided are to be calculated by linear interpolation; and~~
 - ~~(iii) where the Independent Data Source does not provide data on estimated yields for the BBB credit rating band at a ten-year term to maturity, an estimate of the ten-year yield is to be determined in accordance with each of the extrapolation methodologies set out in (the SAPN and AER methodologies). Where an Independent Data Source has been extrapolated using two different extrapolation methodologies, each extrapolation is to be treated as a separate Independent Data Source for the purposes of clauses , and below.~~
- ~~(c) Where there is more than one Independent Data Source with relevant data available during the nominated averaging period:~~
- ~~(i) a simple average of yield estimates from each Independent Data Source will be calculated for each term to maturity up to ten years for which yield estimates are available. This simple average is to be treated as a separate Independent Data Source for the purposes of clause below; and~~
 - ~~(ii) the difference between the highest and lowest ten-year BBB yield estimates from the available Independent Data Sources will be calculated.~~
- ~~(d) The annual return on debt observation for each Financial Year of the Access Arrangement Period (other than Financial Year 2015-16) is to be calculated as:~~
- ~~(i) where the difference calculated in accordance with clause is less than or equal to 60 basis points, the simple average of the annualised yield estimates for BBB-rated corporate bonds with term to maturity of 10 years from each available Independent Data Source, extrapolated in accordance with the AER methodology set out in and averaged over the nominated averaging period for that Financial Year;~~
 - ~~(ii) where the difference calculated in accordance with clause is greater than 60 basis points, the annualised yield estimate for a BBB-rated corporate bond with term to maturity of 10 years from the Best Fit Independent Data Source, determined in accordance with clause , averaged over the nominated averaging period for that Financial Year.~~
- ~~(e) The nominated averaging period to be used for the purpose of calculating the annual return on debt observation for each Financial Year of the Access Arrangement Period (other than Financial Year 2015-16) is to be determined in accordance with clauses and.~~

5.3 — Determination of the Best Fit Independent Data Source

- (a) — ~~The Best Fit Independent Data Source for each nominated averaging period is to be determined as follows:~~
- (i) — ~~a sample of bonds is to be formed for the nominated averaging period, comprising all bonds for which there are yield observations available from the Bloomberg BVAL pricing source for each Business Day of the averaging period, and which have the following characteristics:~~
 - (A) — ~~issued by an entity or entities domiciled in Australia;~~
 - (B) — ~~issued in Australian dollars, United States dollars, Euros or British pounds;~~
 - (C) — ~~issued by corporations in any industry, excluding sovereign entities, regional and local government entities, government agencies, supranational entities and government development banks; and~~
 - (D) — ~~have a credit rating from Standard & Poor's of BBB-, BBB or BBB+ on the final day of the averaging period.~~

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

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

~~accordance with clause) and the corresponding estimated yield from the Independent Data Source (interpolated to the same maturity in accordance with clause) is to be calculated;~~

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

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

~~(D) for each Independent Data Source, the sum of the weighted squared differences across all the bonds in the relevant bond sample is to be calculated; and~~

~~(iv) the Best Fit Independent Data Source will be the Independent Data Source with the lowest sum of weighted squared differences.~~

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

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

~~where:~~

~~R_{ia} is the annualised yield; and~~

~~R_{is} is the semi-annual yield.~~

~~(t) , 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.~~

~~5.3 [DELETED]~~

5.4 Annual return on debt observation where relevant data not available

For any Financial Year of the Access Arrangement Period, with the exception of the Financial Year 2015-16, for which an annual return on debt observation cannot be calculated in accordance with clause 5.2, due to ~~either~~changes in data availability, adjust the approach in accordance with the contingencies as follows:

~~no Independent Data Sources with relevant data being available during the nominated~~

<u>Event</u>	<u>Change to approach</u>
<u>Either the RBA or Bloomberg ceases publication of Australian yield curves that reflect a broad BBB rating.</u>	<u>The AER will estimate the annual return on debt using the remaining curve.</u>

<u>Event</u>	<u>Change to approach</u>
<u>A different third party commences publication of a 10 year yield estimate.</u>	<u>The AER will not apply estimates from a third party data provider that it has not evaluated and included during the determination process. The AER will consider any new data sources in future determinations.</u>
<u>Either Bloomberg or RBA substitutes its current methodology for a revised or updated methodology.</u>	<u>The AER will adopt the revised or updated methodology. Then, at the next regulatory determination, the AER will review this updated methodology. As noted above, the AER would also review any new data sources.</u>
<u>Bloomberg reduces the maximum published BVAL term from 7 years</u>	<u>If Bloomberg still publishes the BVAL curve to 5 or more years, the AER will extrapolate the BVAL curve from the longest published term using the 5 to 10 year yield margin from the RBA curve. The AER has adopted this approach for the period from 15 September 2014 to 3 November 2014 where the 7 year BVAL curve was unavailable.</u> <u>If Bloomberg no longer publishes the BVAL curve to 5 years, the AER will rely entirely on the RBA curve.</u>
<u>The RBA ceases publication of a 10 year yield estimate.</u>	<u>If the RBA ceases publication of a 10 year yield estimate, the AER will extrapolate the RBA estimate to 10 years using:</u> <ul style="list-style-type: none"><u>if available, the margin between spreads in the Bloomberg curve,¹ from the RBA's longest published effective term to 10 years</u> <u>otherwise, the actual CGS margin from the RBA's longest published estimate to 10 years, plus the average DRP spread for the same term margin over the last month prior to the end of its publication.</u>
<u>Bloomberg increases the maximum published BVAL term from 7 years.</u>	<u>If the longest published term is between 7–10 years, the AER will extrapolate it to a 10 year term using the corresponding margin from the RBA curve.</u> <u>If the longest term is 10 or more years, the AER will apply the 10 year BVAL curve un-extrapolated, but still adjusted to be an effective annual rate.</u>
<u>The RBA commences publication of daily estimates.</u>	<u>The AER will cease interpolating the RBA monthly yields. Instead, the AER will estimate both the RBA yield and the RBA year extrapolation margin (used with the BVAL curve) using these daily estimates.</u>
<u>Either Bloomberg or the</u>	<u>The AER will adopt the BBB+ or utilities curve in</u>

¹ Specifically, the spread to CGS.

<u>Event</u>	<u>Change to approach</u>
<u>RBA publishes a BBB+ or utilities specific yield curve.</u>	<u>place of the provider's existing curve, on the basis that it is a closer fit to the AER's benchmark efficient entity.</u>

5.5 Averaging periods

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

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

5.5 Notification of averaging period nomination

- ~~(a) The Service Provider periods specified in confidential appendix J of attachment 3 of the AER's Final Decision must submit an Averaging Period Notice to the AER be used for the purposes of calculating the annual return on debt observation for each Financial Year of the Access Arrangement Period, other than Financial Year 2015-16.~~
- ~~(b) — The Averaging Period Notice must nominate the averaging period to be used for calculating the annual return on debt observation for the relevant Financial Year.~~
- ~~(c) — The Averaging Period Notice must be lodged with the AER at least 50 Business Days prior to the start of the Financial Year in which the nominated averaging period occurs.~~
- ~~(d) — The averaging period must:

 - ~~(i) — be a period of at least 10 consecutive Business Days; and~~
 - ~~(ii) — fall entirely within the Financial Year immediately prior to the Financial Year for which it is to be used to calculate the annual return on debt observation.~~~~

5.6 AER review of Averaging Period Notice

- ~~(a) — Within 20 Business Days of the Service Provider submitting an Averaging Period Notice under clause , the AER must notify the Service Provider of its determination as to whether it agrees to the nominated averaging period.~~
- ~~(b) — The AER must not withhold agreement to the nominated averaging period, unless either:

 - ~~(i) — the Averaging Period Notice does not comply with either of clauses or ; or~~
 - ~~(ii) — the nominated averaging period does not comply with clause .~~~~

- ~~(c) — If the AER does not make a determination within the time limit fixed by clause , the AER is taken to have agreed to the nominated averaging period.~~

5.7 — Default averaging period notice

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

5.6 [DELETED]

5.7 [DELETED]

5.8 Notification and AER determination of the annual return on debt observation

- ~~(a) — Within 20 Business Days of the commencement of a Financial Year for which an annual return on debt observation is to be calculated, the Service Provider must notify the AER of its calculation of the annual return on debt observation for that Financial Year.~~
- ~~(b) — The notification to the AER of the Service Provider's calculation of the annual return on debt observation is to take the form of a written statement which specifies:~~
- ~~(i) — the annual return on debt observation; and~~
 - ~~(ii) — the basis for calculation of the annual return on debt observation.~~
- ~~(c) — Within 40 Business Days of a Service Provider notifying the AER of its calculation of the annual return on debt observation, the AER must notify the Service Provider of its determination as to whether it considers the calculation is consistent with clause or clause , as relevant. The AER's notification under this clause must specify:~~
- ~~(i) — whether the AER approves the Service Provider's calculation of the annual return on debt observation; and~~
 - ~~(ii) — where the AER does not approve the Service Provider's calculation:~~
 - ~~(A) — the AER's reasons for withholding approval for the Service Provider's calculation of the annual return on debt observation; and~~
 - ~~(B) — the AER's calculation of the annual return on debt observation, which it considers to be consistent with clause or clause , as relevant.~~
- ~~(d) — The AER must not withhold approval for the Service Provider's calculation of the annual return on debt observation, unless the calculation is inconsistent with clause and clause .~~
- ~~(e) — Subject to clause :~~
- ~~(i) — the period in clause may be extended (by giving written notice to the Service Provider) to account for the time taken by the AER to obtain information from the Service Provider, obtain expert advice or consult about the notification;~~

- (ii) ~~if the AER is satisfied that the making of a determination pursuant to clause involves issues of such complexity or difficulty that the time limit fixed by clause , as extended by clause above, should be further extended, the AER may extend that time limit by a further period provided it has given written notice to the Service Provider of that extension not later than 10 Business Days before the expiry of that time limit.~~
- (f) ~~Notwithstanding clause , there is an absolute time limit of 90 Business Days from the date of the Service Provider's notification under clause for the AER to make a determination pursuant to clause .~~
- (g) ~~If the AER does not make a determination within the time limit fixed by clause (if relevant, as extended by clause or clause), then the AER is taken to have approved the Service Provider's calculation of the annual return on debt observation.~~

5.9 Update to X factors for updated return on debt

- (a) ~~Following a determination of the AER under clause in relation to the annual return on debt observation for any of the Financial Years 2016-17, 2017-18 or 2018-19, the Service Provider must use the annual return on debt observation that is approved or specified in the determination to update X factors in accordance with this clause.~~
- (b) ~~X factors for the last three Financial Years of the Access Arrangement Period will be updated as follows:~~
 - (i) ~~following a determination in relation to the annual return on debt observation for Financial Year 2016-17, the X factor for Financial Year 2017-18 will be updated by recalculating the return on debt for Financial Year 2016-17 in accordance with clause and replacing the return on debt for Financial Year 2016-17 and each subsequent Financial Year of the Access Arrangement Period in the JGN Revenue Model with this recalculated value;~~
 - (ii) ~~following a determination in relation to the annual return on debt observation for Financial Year 2017-18, the X factor for Financial Year 2018-19 will be updated by recalculating the return on debt for Financial Year 2017-18 in accordance with clause and replacing the return on debt for Financial Year 2017-18 and each subsequent Financial Year of the Access Arrangement Period in the JGN Revenue Model with this recalculated value;~~
 - (iii) ~~following a determination in relation to the annual return on debt observation for Financial Year 2018-19, the X factor for Financial Year 2019-20 will be updated by recalculating the return on debt for Financial Year 2018-19 in accordance with clause and replacing the return on debt for Financial Year 2018-19 and each subsequent Financial Year of the Access Arrangement Period in the JGN Revenue Model with this recalculated value.~~
- (c) ~~Updating of X factors under this clause must be designed to re-equalise (in terms of present values):~~
 - (i) ~~forecast revenue from the Reference Service over the Access Arrangement Period; and~~
 - (ii) ~~the portion of Total Revenue allocated to the Reference Service for the Access Arrangement Period.~~

- (d) ~~Where the X factor for a Financial Year has been updated in accordance with this clause, this updated X factor must be applied for the purposes of varying Reference Tariffs for that Financial Year in accordance with clause.~~

5.10 True up for return on debt in last Financial Year of the Access Arrangement Period

- (a) ~~Following a determination of the AER under clause in relation to the annual return on debt observation for Financial Year 2019-20, the return on debt for Financial Year 2019-20 will be recalculated in accordance with clause, and a revenue true up amount will be calculated as the difference between:~~
- (i) ~~the present value of unsmoothed forecast revenue from the Reference Service across all Financial Years of the Access Arrangement Period, calculated using the JGN Revenue Model, with the return on debt for the 2019-20 Financial Year in the JGN Revenue Model being set equal to the return on debt for Financial Year 2019-20, recalculated in accordance with clause; and~~
 - (ii) ~~the present value of smoothed forecast revenue from the Reference Service across all Financial Years of the Access Arrangement Period, calculated using the JGN Revenue Model, with the return on debt for the 2019-20 Financial Year in the JGN Revenue Model being set equal to the return on debt for Financial Year 2018-19, calculated in accordance with clause.~~
- (b) ~~The revenue true up amount calculated in accordance with this clause must be added to the present value of Total Revenue to be recovered from reference services in the next access arrangement period. For this purpose, the revenue true up amount must be expressed in equivalent terms to the present value of Total Revenue for the next access arrangement period.~~
- (c) ~~Present value amounts are to be calculated under this clause by applying a pre-tax real weighted average cost of capital, calculated in accordance with the JGN Revenue Model.~~
- (d) ~~The principle in this clause is a fixed principle (as provided for in Rule 99 of the National Gas Rules). This fixed principle remains in force for the Access Arrangement Period covered by this Access Arrangement. The principle is also fixed for the next access arrangement period.~~

5.11 Fixed principle

- (a) ~~It is a fixed principle (as provided for in Rule 99 of the National Gas Rules) that the return on debt is estimated using a trailing average methodology which results in the return on debt (and consequently the allowed rate of return) being, or potentially being, different for different Financial Years in the Access Arrangement Period, unless the Service Provider otherwise consents to a different methodology being used. This fixed principle remains in force for the Access Arrangement Period covered by this Access Arrangement. This principle is also fixed for the next access arrangement period. In the 'Inputs|Costs' sheet of JGN's revenue model, update the relevant cell to reflect the updated return on debt estimate (kd). This is:~~

(i) ~~$kd_{2016-17}$ Cell O240~~

(ii) ~~$kd_{2017-18}$ Cell P240~~

(iii) ~~$kd_{2018-19}$ Cell Q240~~

(iv) $kd_{2019-20}$: Cell R240.

(b) Then, set all subsequent estimates equal to the most recently updated return on debt value. For example, when updating the return on debt portfolio for $kd_{2017-18}$, update the cells for 2018–19 (Q240) and 2019–20 (R240) so they are equal to $kd_{2017-18}$ (P240).

(c) On the 'CalcX factor' sheet of JGN's revenue model, update the relevant X factor as follows:

(i) $kd_{2016-17}$: 'Solve year 2'

(ii) $kd_{2017-18}$: 'Solve year 3'

(iii) $kd_{2018-19}$: 'Solve year 4'

(iv) $kd_{2019-20}$: 'Solve year 5'.

(d) The AER will notify JGN of the updated Return on Debt and X factor within 15 business days after the end of JGN's averaging period.

5.9 [DELETED]

5.10 [DELETED]

6 Speculative capital expenditure and investment policy

6.1 General

- (a) If, during the Access Arrangement Period, the Service Provider makes capital expenditure (in whole or in part) that is non-conforming capital expenditure under the National Gas Rules, it may:
 - (i) recover the amount of the expenditure in full or in part by means of a capital contribution by a User or Users; and/or
 - (ii) notify the AER that it proposes to recover the amount or part of the amount of the expenditure by means of a surcharge to be approved by the AER,in accordance with the National Gas Rules.
- (b) To the extent that the amount of the non-conforming capital expenditure is not to be recovered pursuant to clause 6.1(a) above, the Service Provider will add that amount to its speculative capital expenditure account in accordance with the National Gas Rules.

7 Queuing policy

7.1 Forming a queue

- (a) Where the Service Provider receives a Request from a User or Prospective User, and there is insufficient capacity to satisfy the Request, a queue will be formed.
- (b) A queue will include all relevant Requests which cannot be satisfied. When the queue is formed, the following priorities will apply:
 - (i) where an offer to provide a Service has been made in response to a Request received prior to formation of the queue, that Request will take first position in the queue;
 - (ii) where a number of offers have been made in response to Requests received prior to the formation of the queue, those Requests will take positions in the queue according to the Priority Date of those Requests on a “first in, first served” basis, and will be ahead of any Requests for which offers have not been made at the time of the formation of the queue;
 - (iii) other Requests made before the formation of the queue will take their positions in the queue according to the Priority Date of those Requests, on a “first in, first served” basis, but subject to clauses 7.3 and 7.4 and behind any Requests described in clauses 7.1(b)(i) or 7.1(b)(ii) above;
 - (iv) subject to clauses 7.3 and 7.4, requests made after the formation of the queue will take their positions in the queue according to the Priority Date of those Requests on a “first in, first served” basis.
- (c) At the time a Request is placed in a new or existing queue, the Service Provider will advise a User or Prospective User of:
 - (i) its position in the queue;
 - (ii) the aggregate capacity sought by Requests which are ahead in the queue;
 - (iii) its estimate of when capacity may become available; and
 - (iv) the amount any surcharge that may apply to Developable Capacity.
- (d) When the position of a Request changes relative to other Requests which are ahead in the queue (such as where a Request ceases to be in the queue) or where the timing of availability of a new tranche of Developable Capacity changes, the Service Provider will provide revised information to the User or Prospective User.
- (e) Where a Request is made for a Service to a Delivery Point and the Service Provider is satisfied that the Request is for the same tranche of capacity which is already provided to another User in respect of that Delivery Point, then the Service Provider may make that tranche of capacity available in response to the Request to the extent that the existing User is otherwise entitled to maintain or extend that tranche of capacity. That Request does not form part of the queue.

7.2 Conditions applicable on queue

- (a) Following a Prospective User’s Request forming, or being added, to a queue:

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

7.3 Procedure when capacity can be made available

When capacity can be made available which meets in full or in part the requirements of any Request in a queue:

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

7.4 Priority of Prospective Users in obtaining Services

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

7.5 Compensation for holding capacity

- (a) The Service Provider may require the User or Prospective User to pay compensation for the Service Provider agreeing to commence a Service more than 20 Business Days from the execution of a Service Agreement where the commitment of capacity to meet the requirements of the User or Prospective User contributes to:
 - (i) the continuation of a queue,
 - (ii) the formation of a queue at any time prior to the commencement date for that Service; or
 - (iii) the acceleration of investment by the Service Provider to provide capacity for other Users on the transportation route.

7.6 General

- (a) A Request will not lapse and will retain its priority in a queue in the event of a dispute about that Request being notified, until that dispute has been resolved in accordance with the National Gas Law and National Gas Rules.
- (b) Where a queue exists a Prospective User must on request demonstrate to the Service Provider that the Prospective User will have access to a supply of gas at the time it is anticipated that the Prospective User will be offered access to the Service.
- (c) When administering a queue (including but not limited to forming a queue, assigning priority within a queue and determining when to or when not to offer capacity in response to a Request), the Service Provider may take into account a connection contract that the Service Provider has entered into, including a connection contract under Part 12A of the National Gas Rules. In that circumstance the Priority Date of the corresponding Request will be the earlier of the date of the Request and the date on which the connection contract was made.

8 Extensions and expansions policy

8.1 Method for determining if extension or expansion forms part of the Covered Pipeline

The method below shall be used to determine whether an extension or expansion of a Covered Pipeline should be taken to form part of the Covered Pipeline.

- (a) Subject to clause 8.1(d), if the Service Provider proposes a new network section of the Covered Pipeline, it must apply to the AER in writing to decide whether the Access Arrangement will apply to incremental services to be provided by the new network section. The application must include the information required by clause 8.1(c);
- (b) For the purposes of this clause 8.1, a new network section means an extension to the Service Provider's Covered Pipeline where that extension has a direct connection to a transmission pipeline and which is designed to provide reticulated Gas either to a new development or an existing development not serviced with reticulated Gas;
- (c) The Service Provider must apply to the AER under clause 8.1(a) before the proposed new network section comes into service:
 - (i) in writing;
 - (ii) stating whether the Service Provider intends for the Access Arrangement to apply to incremental services to be provided as a result of the proposed new network section; and
 - (iii) describing the new network section and setting out why it is being undertaken.
- (d) The Service Provider is not required to advise the AER under clause 8.1(a) if the cost of the new network section has already been included in the calculation of Reference Tariffs, in which case the Access Arrangement applies to the incremental services to be provided by the new network section.
- (e) After considering the Service Provider's application, and undertaking such consultation as the AER considers appropriate, the AER will inform the Service Provider of its decision on the Service Provider's proposed coverage approach for the new network section.
- (f) The AER's decision referred to in clause 8.1(e) above, may be made on such reasonable conditions as determined by the AER and will have the effect stated in the decision.

8.2 General

- (a) This Access Arrangement will apply to incremental services to be provided as a result of any extensions to and expansions of the capacity of the Network which are not new network sections within the meaning of clause 8.1(b).
- (b) This Access Arrangement will apply to incremental services to be provided by all extensions to existing low or medium pressure pipelines and expansions of low and medium pressure capacity of the Network carried out by the Service Provider.

- (c) The Service Provider will offer the Reference Service in respect of any extensions or expansions to which this Access Arrangement applies at the Reference Tariffs.
- (d) The Service Provider will notify the AER of any proposed surcharge to be levied on users of incremental services and designed to recover non-conforming capital expenditure or a specified portion of non-conforming capital expenditure (non-conforming capital expenditure which is recovered by means of a surcharge will not be rolled into the capital base).

9 Capacity trading

9.1 Transfer of contracted capacity for a Haulage Reference Service

A User may transfer all or any of its contracted capacity for a Haulage Reference Service to another User in accordance with the provisions of the Reference Service Agreement.

9.2 Transfer of contracted capacity for a Pipeline Service other than a Haulage Reference Service

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

10 Changing receipt and delivery points

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

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

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

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

10.3 Service Provider's consent

The Service Provider must not withhold its consent under clause 10.1 or clause 10.2, as relevant, unless it has reasonable grounds, based on technical or commercial considerations, for doing so.

11 Consolidated Access Arrangement

11.1 Consolidated Access Arrangement

- (a) The AER issued a direction to the Service Provider under Rule 53 of the National Gas Rules to consolidate the access arrangements for its four Covered Pipelines:
- (i) Wilton-Newcastle trunk pipeline;
 - (ii) Wilton-Wollongong trunk pipeline;
 - (iii) NSW Distribution System; and
 - (iv) Central West Distribution System,
- subject to the following conditions:
- (v) the consolidation remains in force until revoked by the AER; and
 - (vi) the Service Provider must separately prepare, maintain and keep information about the Capital Base of the:
 - (A) Wilton-Newcastle trunk pipeline;
 - (B) Wilton-Wollongong trunk pipeline; and
 - (C) the NSW Distribution System and the Central West Distribution System.
- (b) The AER must notify the Service Provider no later than 18 months prior to the Revision Commencement Date if it intends to revoke its direction to the Service Provider to consolidate the access arrangements for its four Covered Pipelines.

11.2 Fixed principle

The principle in clause 11.1 is a fixed principle (as provided for in Rule 99 of the National Gas Rules). This fixed principle remains in force for the Access Arrangement Period covered by this Access Arrangement. The principle is also fixed for the next access arrangement period.

12 Operating expenditure efficiency carryover mechanism

12.1 Incentive mechanism

- (a) The incentive mechanism will apply to operating expenditure.
- (b) The incentive mechanism will operate in the following way:
 - (i) the Service Provider will retain the benefit of actual operating expenditure being lower, or incur the cost of actual operating expenditure being higher, than forecast operating expenditure included in the Total Revenue in each Financial Year of the Access Arrangement Period;
 - (ii) the mechanism carries forward the Service Provider's incremental efficiency gains (or losses) for five Financial Years from the Financial Year those gains (or losses) occur;
 - (iii) annual carryover amounts accrue in each Financial Year of the subsequent access arrangement period as the summation of the incremental efficiency gains (or losses) in the immediately prior access arrangement period that are carried forward for five years or less into the Financial Year; and
 - (iv) the annual carryover amounts are added to the Service Provider's Total Revenue in each Financial Year of the subsequent access arrangement period. If necessary, the annual efficiency gain (or loss) is carried forward into the access arrangement period commencing 1 July 2020 until it has been retained by the Service Provider for a period of five years.
- (c) The incremental efficiency gain (or loss) for the Financial Year 2015-16 will be calculated as:

$$F_{2015-16} - A_{2015-16}$$

where:

$F_{2015-16}$ is the forecast operating expenditure for Financial Year 2015-16; and

$A_{2015-16}$ is the actual operating expenditure for Financial Year 2015-16.

- (d) The incremental efficiency gain (or loss) for Financial Years 2016-17 to 2018-19 (inclusive) will be calculated as:

$$E_t = (F_t - A_t) - (F_{t-1} - A_{t-1})$$

where:

E_t is the incremental efficiency gain (or loss) in Financial Year t of the Access Arrangement Period;

F_t is the forecast operating expenditure in Financial Year t of the Access Arrangement Period;

A_t is the actual operating expenditure in Financial Year t of the Access Arrangement Period;

F_{t-1} is the forecast operating expenditure in Financial Year $t-1$ of the Access Arrangement Period; and

A_{t-1} is the forecast operating expenditure in Financial Year $t-1$ of the Access Arrangement Period.

- (e) Actual operating expenditure in the Financial Year 2019-20 is to be estimated using the following equation:

$$A_{2019-20} * = A_{2018-19} + F_{2019-20} - F_{2018-19}$$

where:

$A_{2019-20} *$ is the estimate of operating expenditure for Financial Year 2019-20;

$A_{2018-19}$ is the actual operating expenditure for Financial Year 2018-19;

$F_{2019-20}$ is the forecast operating expenditure for Financial Year 2019-20; and

$F_{2018-19}$ is the forecast operating expenditure for Financial Year 2018-19.

- (f) For the avoidance of doubt:
- (i) the incremental efficiency gain (or loss) for Financial Year 2019-20 will be assumed to equal zero;
 - (ii) the incremental efficiency gain (or loss) for Financial Year 2020-21 will be carried over for 5 years and be calculated with reference to the actual operating expenditure for Financial Year 2019-20 and not $A_{2019-20} *$; and
 - (iii) the incremental efficiency gains (or losses) are carried over from Financial Year to Financial 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 in the Access Arrangement Information.
- (g) Increments or decrements from the summation of incremental 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 Financial Year of the subsequent access arrangement period.
- (h) The following costs will be excluded from the operation of the efficiency carryover mechanism:
- (i) UAG Costs;
 - (ii) licence fee costs;
 - (iii) debt raising costs;
 - (iv) Carbon Costs;
 - (v) the cost of any Relevant Tax; and
 - (vi) any cost category that: (1) is not forecast using a single year revealed cost approach in the access arrangement period following this Access

Arrangement Period (intended to commence 1 July 2020); and (2) the AER determines, as part of a decision on revisions to apply to this Access Arrangement (and following the consultation processes associated with that decision), to exclude from the operation of the efficiency carryover mechanism because it is satisfied that it would not promote the National Gas Objective.

- (i) 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, which exclude the costs listed in clause 12.1(h), adjusted for any Determined Pass Through Amounts:

	2015-16	2016-17	2017-18	2018-19	2019-20
Forecast opex (excluding debt raising costs)	161.58	163.63	163.83	168.26	167.81
Forecast UAG costs	15.85	15.86	15.79	15.71	15.68
Forecast carbon costs	0.04	0.04	0.04	0.04	0.04
Forecast government levies	3.98	3.98	3.98	3.98	3.98
Forecast debt raising costs	3.84	3.96	4.05	4.13	4.17
Forecast operating expenditure for incentive mechanism purposes (\$million, real 2015)	137.8708	139.79137.92	139.96138.84	144.40143.45	143.95142.67

- (j) 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.
- (k) 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 AER a detailed description of the change and a calculation of its impact on forecast and actual operating expenditure.

12.2 Fixed principle

Except for clause 12.1(h)(vi), the principle in clause 12.1 is a fixed principle (as provided for in Rule 99 of the National Gas Rules). This fixed principle remains in force for the Access Arrangement Period covered by this Access Arrangement. The principle is also fixed for the next two access arrangement periods.

Schedule 1 Definitions and interpretation

1 Definitions

In this Access Arrangement:

2010-15 Access Arrangement means the Access Arrangement that applied to the Network immediately prior to the Effective Date, as approved by the AER on 11 June 2010, amended by order of the Australian Competition Tribunal on 30 June 2011, and further amended by the AER on 26 September 2011;

2010-15 Access Arrangement Period means the period during which the 2010-15 Access Arrangement applied to the Network;

Access Arrangement means this arrangement setting out terms and conditions for access to the Services provided by the Service Provider that is lodged with, and approved by, the AER under the National Gas Rules;

Access Arrangement Information means the information relating to this Access Arrangement and submitted by the Service Provider pursuant to Rule 42 of the National Gas Rules, [amended to reflect the AER's Final Decision](#);

Access Arrangement Period means, for this Access Arrangement, the period commencing from the Effective Date until the revisions to this Access Arrangement take effect (intended to be 1 July 2020);

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

[AER's Final Decision](#) means the final decision of the AER under Rule 62 of the National Gas Rules;

Applicable Law means any legislation, subordinate legislation, licence, code, rules, sub-code, guideline, safety case, order or regulation that applies to the Service Provider, the Network, the operation of the Network, and / or provision of services on the Network, whether specific to the Service Provider or regulating the gas industry or aspects of the gas industry more generally;

~~Averaging Period Notice~~ means the notice provided to the AER pursuant to clause ;

~~Best Fit Independent Data Source~~ means an Independent Data Source determined in accordance with clause ;

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

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

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

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

Central West Distribution System means the covered natural gas distribution pipelines owned by the Service Provider and as described in Schedule 11;

Charge for a Service means the amount that is payable by a User to the Service Provider for the provision of the Service to that User;

Cost Pass Through Event means the events listed in clause 3.4;

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

Covered Pipeline means a pipeline:

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

CPI means the All Groups Consumer Price Index that is the weighted average of the 8 capital cities as first published by the Australian Bureau of Statistics;

Customer means:

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

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

Effective Date means the later of:

- (a) 1 July 2015; and
- (b) if the AER's approval of this Access Arrangement takes effect under the National Gas Rules on a date after 1 July 2015, that date;

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

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

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

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

Fixed Charge means a fixed charge as specified in the Reference Tariff Schedule;

Gas Supply Act means the *Gas Supply Act 1996* (NSW);

~~**Gas Supply Shortfall Event** means an event outside of the control of the Service Provider which:~~

~~(a) causes the Service Provider (acting reasonably in the circumstances) to take action to safely manage the impact or potential impact on the Network of materially insufficient gas being available for injection into the Network, including in the circumstance where the pressure of Gas at any Receipt Point drops or threatens to drop below the minimum receipt pressure at that Receipt Point; and~~

~~(b) results in an interruption or reduction in the provision of the Reference Service;~~

Haulage Reference Service means the Service described in clause 2.2(b) and provided by the Service Provider in accordance with the Reference Service Agreement;

Haulage Reference Tariff or **Reference Tariff** means a tariff which relates to a Haulage Reference Service, as specified in the Reference Tariff Schedule;

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

Initial Reference Tariffs means the Reference Tariffs applying on and from the Effective Date, until amended in accordance with clause 3;

Initial Reference Tariff Schedule means Schedule 2 of this Access Arrangement;

Initial Tariff Classes means the Tariff Classes applying and from the Effective Date, until amended in accordance with clause 3;

Insurance Cap Event means an event where:

- (a) the Service Provider makes a claim or claims and receives the benefit of a payment or payments under a relevant insurance policy;
- (b) the Service Provider incurs costs beyond the relevant policy limit; and
- (c) the costs beyond the relevant policy limit increase the costs to the Service Provider of providing the Reference Service.

For this Insurance Cap Event:

- (a) the relevant policy limit is the greater of:
 - (i) the Service Provider's actual policy limit at the time of the event that gives, or would have given rise to the claim; and
 - (ii) the policy limit that is explicitly or implicitly commensurate with the allowance for insurance premiums that is included in the forecast operating expenditure allowance approved in the AER's final decision for the Access Arrangement Period ~~in which the relevant insurance policy is issued;~~

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

Note for the avoidance of doubt, in making a determination on an Insurance Cap Event pursuant to clause 3.4(i), the AER will have regard to, amongst other things:

- (i) the insurance policy for the event, and
- (ii) the level of insurance that an efficient and prudent Service Provider would obtain in respect of the event;

Insurer Credit Risk Event means ~~the insolvency of an~~ an event where:

A nominated insurer of the Service Provider, becomes insolvent, and as a result of which the Service Provider:

- ~~(d) incurs materially higher or lower costs for insurance premiums than those allowed for in the AER's final decision in relation to this Access Arrangement; or~~
- (a) , in respect of an existing, or potential, claim for a risk that would have been was insured by the insolvent insurer, the Service Provider:
 - ~~(e)(iii) is subject to materially a higher or lower claim limit or a materially higher or lower deductible than would have otherwise applied under the insolvent insurer's policy; or~~
 - (f)(iv) incurs additional costs associated with self-funding an insurance claim, which would otherwise have been covered by the insolvent insurer.

~~For the purpose of this event, an event is considered to materially increase costs where the event has a cost impact of either:~~

- ~~(a) in at least one of the Financial Years of the Access Arrangement Period that the costs are incurred, at least one per cent of the smoothed forecast revenue specified in the Access Arrangement Information for the corresponding year that the costs are incurred; or~~
- ~~(b) in total over the Access Arrangement Period, equal to or greater than 0.5 per cent of the smoothed forecast revenue specified in the Access Arrangement Information;~~

Note for the avoidance of doubt, in making a determination on an Insurer Credit Risk Event pursuant to clause 3.4(i), the AER will have regard to, amongst other things:

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

Interconnection of Embedded Network Service means the Service described in clause 2.5;

JGN Revenue Model means the revenue model that is used by the Service Provider to calculate Reference Tariffs for the Access Arrangement Period and as approved in the AER's final decision for this Access Arrangement Period;

Maximum Daily Quantity or **MDQ** means the maximum Quantity of Gas (in GJ) which the Service Provider is obliged to transport and delivery to a particular Delivery Point on behalf of the User on any Day (excluding Overruns);

Maximum Hourly Quantity or **MHQ** means the maximum Quantity of Gas (in GJ) which the Service Provider is obliged to transport and delivery to a particular Delivery Point on behalf of the User in any Hour (excluding Overruns);

Month means calendar month;

National Gas Law means the *National Gas Law* adopted under the *National Gas (New South Wales) Act 2008* (NSW);

National Gas Objective means the objective set out in section 23 of the National Gas Law;

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

Natural Disaster Event means ~~any~~ Any major fire, flood, earthquake or other natural disaster; that occurs during the 2015-20 Access Arrangement Period and increases the costs to the Service Provider in providing the Reference Service, provided the fire, flood or other event was not a consequence of the acts or omissions of the Service Provider.

The term 'major' in the above paragraph means an event that is serious and significant.

Note for the avoidance of doubt, in making a determination on a Natural Disaster Event pursuant to clause 3.4(i), the AER will have regard to, amongst other things:

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

NCC means National Competition Council;

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

Negotiated Service Agreement means a contract between the Service Provider and a User or Prospective User for the provision of a Negotiated Service;

Network User Failure Event means ~~the occurrence of~~ an event ~~whereby where:~~

- (a) a User becomes insolvent or is unable to continue to supply gas to its customers, and those customers are transferred to another User but excludes costs that could

~~be the subject of a pass through amount pursuant to rule 531 of the National Gas Rules or Retailer of Last Resort (RoLR) Event as defined in section 467(2) of the National Energy Retail Law. For the purposes of this event, has occurred, and~~

~~(b) the Service Provider may seek to pass through amounts that incurs costs in responding to the RoLR event in accordance with its obligations under the NERL, NERR, NGL or NGR (including Guidelines and procedures that are binding under those instruments), and~~

~~(c) the costs are not recoverable by the Service Provider is entitled to be paid (but which are or will be unpaid as a result of a Network User Failure Event) for under other provisions of the NERL, NERR, NGL or NGR as in force at the provision time of the Reference Service, including the revenue impact the Service Provider sustains or will sustain as a result of those unpaid amounts. event, including but not limited to rule 531 of the NGR and other pass through events in this Access Arrangement.~~

~~Note for the avoidance of doubt, references to incurring “costs” in in making a determination on a Network User Failure Event pursuant to clause 3.4(i), the AER will have regard to, amongst other things, the extent to which the Service Provider has taken steps to minimise the costs associated with its responsibilities in a RoLR Event, both prior to, and after, the RoLR Event was triggered;~~

Non-Reference Service means each of:

~~(c)(d)~~ the Interconnection of Embedded Network Service; and

~~(d)(e)~~ a Negotiated Service;

NSW Distribution System means the covered natural gas distribution pipelines owned by the Service Provider, which have Receipt Points and service the areas in New South Wales as described in 1;

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

Pipelines Act means the *Pipelines Act 1967* (NSW);

Priority Date means the date a complete Request is received by the Service Provider from a Prospective User;

Prospective User means:

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

Provision of Basic Metering Equipment Charge means an annual charge specified in the Reference Tariff Schedule;

RBA means the Reserve Bank of Australia;

Receipt Station means the facilities at which Gas is received into the Network;

Reference Service means the Haulage Reference Service specified in clause 2.2;

Reference Service Agreement means the contract between the Service Provider and a User or Prospective User for the provision of the Reference Service as set out in Schedule 4;

Reference Tariff Schedule means the schedule of Reference Tariffs currently in place, as approved by the AER and amended from time to time in accordance with this Access Arrangement;

Regulatory Change Event means a change in regulatory obligation or requirement that falls within no other category of Cost Pass Through Event and [substantially](#) affects the manner in which the Service Provider provides the Reference Service;

Relevant Minister means if, in a coverage recommendation, no-coverage recommendation, classification decision under the National Gas Rules or reclassification decision, the NCC determines the pipeline is:

- (a) a cross boundary transmission pipeline—the Commonwealth Minister;
- (b) a transmission pipeline situated wholly within a participating jurisdiction—the designated Minister;
- (c) a distribution pipeline situated wholly within a participating jurisdiction—the Minister of the participating jurisdiction;
- (d) a cross boundary distribution pipeline—the Minister of the participating jurisdiction determined by the NCC in the recommendation as being the participating jurisdiction with which the cross boundary distribution pipeline is most closely connected;

Relevant Tax means any Tax other than:

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

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

Service means a service provided by the Service Provider in relation to the Network including the Reference Service;

Service Agreement means a contract between the Service Provider and a User or Prospective User for the provision of a Service;

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

- (a) Varying, during the course of an Access Arrangement Period, the manner in which the Service Provider is required to provide the Reference Service; or
- (b) Imposing, removing or varying, during the course of an Access Arrangement Period, minimum service standards applicable to the Reference Service; or
- (c) Altering, during the course of an Access Arrangement Period, the nature or scope of the Reference Service provided by the Service Provider;

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

Tariff Class means customers for the Reference Service who constitute a tariff class under this Access Arrangement;

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

Terrorism Event means an act (including, but not limited to, the use of force or violence or the threat of force or violence) of any person or group of persons (whether acting alone or on behalf of or in connection with any organisation or government), which from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons (including the intention to influence or intimidate any government and/or put the public, or any section of the public, in fear); and which increases the cost to the Service Provider in providing the Reference Service.

Note for the avoidance of doubt, in making a determination on a Terrorism Event pursuant to clause 3.4(i), the AER will have regard to, amongst other things:

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

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

UAG Costs means the average cost per gigajoule incurred by the Service Provider for purchases of gas as unaccounted for gas (**UAG**) during a Financial Year, including costs for transmission haulage and other direct costs reasonably incurred by the Service Provider to acquire UAG through a competitive market or process;

User means a person who:

- (a) is a party to a contract with the Service Provider under which the Service Provider provides or intends to provide a Pipeline Service to that person by means of the Network; or

- (b) has a right under an access determination to be provided with a Pipeline Service by means of the Network;

Variation Notice means a notice submitted by the Service Provider to the AER under clause 3.6;

WACC means the ~~pre-tax nominal~~ real vanilla Weighted Average Cost of Capital of ~~[7.77 per cent]~~; and

Year means a period of 365 consecutive Days but, for any Year which contains a date of 29 February, means 366 consecutive Days.

2 Interpretation

In the construction of the Access Arrangement, unless the context otherwise requires:

- (a) a reference to a clause or a schedule is to a clause in, or schedule to, this Access Arrangement;
- (b) a word importing the singular includes the plural and vice versa, and a word of any gender includes the corresponding words of any other gender;
- (c) references to any statute, regulations, or other statutory instrument, standard or by-laws shall be deemed to be references to the statute, regulation, statutory instrument, standard or by-law as from time to time amended, consolidated, re-enacted or replaced including substituted provisions that substantially correspond to those referred to;
- (d) references to any agreement, deed, instrument, or publication shall be deemed to be references to the agreement, deed, instrument or publication as from time to time amended, supplemented, novated or replaced;
- (e) clause or condition headings are inserted for convenience only and do not affect the interpretation of the Access Arrangement;
- (f) expressions referring to writing will be construed as including references to words printed, type-written, telexed, lithographed, facsimiled or otherwise traced, copied or reproduced;
- (g) a reference to a party includes a reference to its successors in title and permitted assigns;
- (h) an agreement, representation or warranty on the part of two or more persons binds them jointly and severally or if given in favour of two or more persons may be enjoyed by them jointly or severally or jointly and severally;
- (i) when referring to a particular Day, the date of the Day shall be the date on which that Day begins; and
- (j) the words "include", "including", "for example" or "such as" are not used as, nor are they to be interpreted as, words of limitation, and, when introducing an example, do not limit the meaning of the words to which the example relates to that example or examples of a similar kind.
- (k) if a word or phrase is given a defined meaning, any other part of speech or grammatical form of that word or phrase has a corresponding meaning;

- (l) a reference to a person includes an individual, the estate of an individual, a corporation, an authority, an association or parties in a joint venture, a partnership and a trust;
- (m) a reference to an agency or body if that agency or body ceases to exist or is reconstituted, renamed or replaced or has its powers or function removed (obsolete body), means the agency or body which performs most closely the functions of the obsolete body; and
- (n) a reference to \$ or dollar is to Australian currency.

Schedule 2 Initial Reference Tariff Schedule

1 Introduction

- (a) This Initial Reference Tariff Schedule sets out the Initial Reference Tariffs that apply for the Reference Service under this Access Arrangement.
- (b) The Initial Reference Tariffs are expressed in real 2015/2016 dollars, and are exclusive of GST.
- (c) There may be more than one Initial Reference Tariff for the Reference Service.
- (d) The Initial Reference Tariffs available for the Reference Service depend upon the Initial Tariff Class assigned by the Service Provider to the Delivery Point to which the Reference Service will be provided.
- (e) In addition to setting out the Initial Tariff Classes and the Initial Reference Tariffs, this Initial Reference Tariff Schedule sets out and explains the tariff components and assignment criteria used in determining the availability of different Initial Reference Tariffs.
- (f) The Initial Reference Tariffs will take effect from the Effective Date and will apply until amended in accordance with clause 3 of the Access Arrangement. When the Reference Tariffs are amended, the updated Reference Tariff Schedule will be published on the Service Provider's website.

2 Assignment criteria for a Tariff Class

2.1 Elements for tariff assignment

- (a) The Service Provider determines the appropriate Tariff Class for a Delivery Point based on each of the following elements:
 - (i) customer groups;
 - (ii) tariff categories; and
 - (iii) classification by location.
- (b) The assignment criteria for each relevant element must be satisfied in order for a Delivery Point to qualify for a particular Tariff Class.
- (c) Each Tariff Class is allocated a code which reflects the assignment criteria for each of the elements using the following format:

[G][CAT]-[Location]

where:

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

[CAT] is a category name or abbreviation. If omitted then the Tariff Class is not described by reference to a tariff category. The assignment criteria for the tariff categories are described in clause 2.3 below; and

[Location] is the location identifier. If equal to 0, or omitted, then the Tariff Class is not described by reference to a specific part of the Network. The assignment criteria for classification by location is described in clause 2.4 below.

2.2 Tariff customer groups

- (a) The tariff customer group that applies to a Delivery Point to which a Haulage Reference Service is provided is determined on the basis of the characteristics of the Energy requirements of the Customer and any other end customer that is supplied with, and consumes, Energy as a result of Gas being delivered to that Delivery Point under that Haulage Reference Service.
- (b) The assignment criteria are as follows:
 - (i) **Demand Tariff:** A Delivery Point can be assigned a Demand Tariff customer group where:
 - (A) all Gas delivered to that Delivery Point is used on the premises to meet the production or Energy requirements of:
 - a single Business Customer occupying those premises; or
 - a Customer operating a centralised gas-fired electricity generation plant or system that supplies electricity and cogenerated thermal energy directly to a group of substantially non-residential end customers² occupying the same or nearby premises³;
 - (B) the Quantity of Gas withdrawn at that Delivery Point is reasonably expected to be equal to or greater than 10 TJ of Gas per annum; and
 - (C) the Service Provider has accurate and complete information to enable Load Shedding procedures to be implemented at the Delivery Point.
 - (ii) **Volume Tariff:** A Delivery Point can be assigned a Volume Tariff customer group where the Delivery Point does not satisfy the Demand Tariff customer group assignment criteria and all Gas delivered to that Delivery Point is used on the premises to meet the production or Energy requirements of:
 - (A) a single Residential Customer;
 - (B) a single Business Customer who is reasonably expected to consume less than 10 TJ of Gas per annum;

Assignment to a Demand Tariff is for a minimum period of 12 months;

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

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

- (C) a Customer operating a centralised gas-fired electricity generation plant or system that supplies electricity and cogenerated thermal energy directly to a group of substantially non-residential end customers¹ occupying the same or nearby premises,² and the Delivery Point is reasonably expected to withdraw less than 10 TJ of Gas per annum; or
- (D) a group of end customers (business and/or residential) occupying a single, multi-occupancy premises where Gas is withdrawn by a single Customer at a single Delivery Point (other than as contemplated under paragraph (C) above).

2.3 Tariff category

- (a) Where convenient, the Service Provider uses a tariff category to group a number of Tariff Classes together to describe a common, but not complete, sub-set of assignment criteria. For example, the assignment criteria for all Demand Tariffs that fall into the capacity category have a common “category criteria” but separate “location criteria”.
- (b) Tariff categories for Demand Tariffs, and the corresponding category assignment criteria are as follows:

Abbreviation	Category	Criteria
DC	Capacity	This category is used for Delivery Points which meet the criteria for a Demand Tariff, and have not been assigned to another Demand Tariff category, such as the 'Capacity - 1st Response' or 'Throughput' categories.
DCFR	Capacity – 1st Response	<p>Tariffs within this category have been grandfathered from 1 July 2015 and this category is not available for new delivery points. See clause 5.2 of this schedule for more information. Grandfathered Delivery Points in this tariff category must satisfy (to the Service Provider’s reasonable satisfaction) the following criteria:</p> <ul style="list-style-type: none"> a) peak hourly historical demand is consistently greater than 350 GJ/hr, but no more than the MHQ; b) the User has provided the Service Provider with a documented Curtailment Plan for the Delivery Point which is acceptable to the Service Provider and contains ELMS Data required by the Service Provider, contact personnel and site procedures for reducing load in accordance with the ELMS Data, including times for various stages of load reduction; c) under the Curtailment Plan and ELMS Data held by the Service Provider, at least 40% of peak historical hourly demand is nominated for reduction in Load Shedding priority 1 and that reduction could be expected to be reduced within no more than 6 hours of first contact; d) the Curtailment Plan and all ELMS Data is up to date (with a minimum review period of 24 months); e) the Service Provider is able to continuously monitor hourly demand from the Delivery Station at the site, or other sampling frequency acceptable to the Service Provider; and f) in any Load Shedding procedure initiated by the Service Provider in the past two years which involved the Delivery Point, the level of hourly demand at the Delivery Point was no more than the hourly demand anticipated after each stage of reduction as set out in the

Abbreviation	Category	Criteria
		Curtailment Plan.
DT	Throughput	Assignment to this tariff category is made upon User request. This tariff category is used for Delivery Points which meet the criteria for a Demand Tariff.
DMT	Major End Customer Throughput	Assignment to this tariff category is made upon User request. This tariff category is used for Delivery Points which meet the criteria for a Demand Tariff and which also satisfy the following additional criteria: <ul style="list-style-type: none"> a) the average daily consumption in any 12 month period multiplied by 1.33 is greater than 10 times the contractual MHQ⁴ for the Delivery Point for the same period; and b) the Delivery Point is located in location identifiers 1, 2, 3, 4 or 5.
DMTFR	Major End Customer Throughput – First Response	Tariffs within this category have been grandfathered from 1 July 2015 and this category is not available for new delivery points. See section 5.2 of this schedule for more information. Grandfathered Delivery Points in this tariff category meet the criteria for a Major End Customer Throughput Tariff and must satisfy (to the Service Provider's reasonable satisfaction) the following additional criteria: <ul style="list-style-type: none"> a) peak hourly historical demand is consistently greater than 350 GJ/hr, but no more than the MHQ; b) the User has provided the Service Provider with a documented Curtailment Plan for the Delivery Point which is acceptable to the Service Provider and contains ELMS Data required by the Service Provider, contact personnel and site procedures for reducing load in accordance with the ELMS Data, including times for various stages of load reduction; c) under the Curtailment Plan and ELMS Data held by the Service Provider, at least 40% of peak historical hourly demand is nominated for reduction in Load Shedding priority 1 and that reduction could be expected to be reduced within no more than 6 hours of first contact; d) the Curtailment Plan and all ELMS Data is up to date (with a minimum review period of 24 months); e) the Service Provider is able to continuously monitor hourly demand from the Delivery Station at the site, or other sampling frequency acceptable to the Service Provider; and f) in any Load Shedding procedure initiated by the Service Provider in the past two years which involved the Delivery Point, the level of hourly demand at the Delivery Point was no more than the hourly demand anticipated after each stage of reduction as set out in the Curtailment Plan.

⁴ If the contractual MHQ has changed in a period then the lowest contractual MHQ is used.

- (c) Tariff categories for Volume Tariffs and corresponding assignment criteria are as follows:

Abbreviation	Category	Criteria
VI	Individual	This category applies where either: <ul style="list-style-type: none"> all Gas withdrawn at the Delivery Point is measured by the Service Provider by individually metering the Energy consumption of the end customer(s) (including the consumption of hot water supplied through a centralised residential gas hot water system); or the Delivery Point meets the Volume Tariff customer group assignment criteria in paragraph 2.2(b)(ii)(C) above.
VB	Boundary	This category applies where a Delivery Point meets the Volume Tariff customer group assignment criteria in paragraph 2.2(b)(ii)(D) and the Gas withdrawn at the Delivery Point is measured by the Service Provider using a single gas metering installation for all Gas delivered to the Delivery Point (i.e. the Service Provider does not meter the Energy consumption of each individual end customers) and has not been assigned to a tariff in the VRT category. ²
VRT	Residential Distributed Generation Technology	Assignment to this category is made upon User request. This category is available for a Delivery Point at which all Gas is consumed on the premises by a Customer operating a gas-fired electricity generation plant or system that supplies electricity and cogenerated thermal energy directly to a group of substantially residential end customers ⁵ occupying the same or nearby premises, and the Delivery Point is reasonably expected to withdraw more than 50 TJ of Gas per annum. ²

- (d) Where a Delivery Point is eligible for more than one tariff category, the User or Prospective User can nominate the discretionary element of the tariff category in accordance with clause 4 of this Schedule. For example, a User or Prospective User may request to be placed in the 'Throughput' category. The Service Provider may refuse a nomination by a User or Prospective User if it does not consider the Delivery Point to be eligible.

⁵ As a guide, the Service Provider will consider a group of end customers to be substantially residential where more than 50% (by number) of the group use Energy principally for person, domestic or household purposes.

2.4 Classification by Location

Where assignment criteria for a Tariff Class depends upon the location of the Delivery Point, the following location criteria will be used.

Location Identifier	Applies to Delivery Points located in:	
0 or omitted	All areas in the Network	
Coastal	The Wilton Network Section (used for VI and VB Volume Tariffs only – see identifiers 1 to 11 for location criteria in the Wilton Network Section for other Tariff Classes)	
Country	Network Sections other than the Wilton Network Section	
1	2164, 2171, 2175, 2571, 2761, 2762, 2766, 2768, Appin	Location identifiers refer to the first 4 numbers of the Delivery Station Identifier used by the Service Provider to identify individual Demand Customer and daily metered Delivery Points. Location identifiers are listed for existing Delivery Points. ⁶
2	2141, 2142, 2143, 2144, 2145, 2147, 2148, 2161, 2162, 2163, 2165, 2166, 2170, 2565, 2750, 2759, 2760, 2765, 2770	
3	2006, 2007, 2015, 2017, 2019, 2020, 2033, 2036, 2040, 2044, 2046, 2050, 2112, 2113, 2115, 2116, 2128, 2135, 2136, 2137, 2138, 2140, 2146, 2151, 2152, 2153, 2157, 2173, 2190, 2199, 2200, 2204, 2205, 2211, 2212, 2214, 2216, 2217, 2560 ⁷ , 2566, 2570, 2747, 2755, 2756, 2777	
4	2000, 2008, 2009, 2010, 2011, 2018, 2021, 2022, 2031, 2032, 2034, 2035, 2037, 2039, 2064, 2065, 2066, 2067, 2111, 2120, 2122, 2154, 2196, 2208, 2220, 2223, 2224, 2228, 2229, 2231, 2232	
5	2028, 2060, 2076, 2077, 2080, 2085, 2095, 2099, 2100, 2102, 2103, 2780	
6	2250, 2259, 2284, 2285, 2286, 2304, 2308, 2322	
7	2256, 2258, 2260, 2261, 2262, 2263, 2264, 2265, 2294, 2295, 2298, 2303, 2305, 2320, 2323, 2326, 2327	
8	2290, 2300, 2314, 2321, 2324, 2325, 2330	
9	2505-BHP	
10	2500, 2502, 2505, 2526, 2530	
11	2516, 2527	

⁶ The Service Provider shall assign new Delivery Points to location classifications on the basis of 1997 Australia Post postcode boundaries, and where new postcodes must be added to the table, the Service Provider will allocate a locational identifier to new postcode, which is comparable with the existing postcodes.

⁷ Excludes Appin - see location classification 1.

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

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

Customer Type/Category	Tariff Class	Haulage Reference Service -- Reference Tariff Components
Volume Individual	VI-Coastal VI- Country	Volume Throughput Rate (clause 4.1(h)) Fixed Charge (clause 4.1(i)) Ancillary Charges (clause 4.1(j)) Clean Energy Act Repeal Settlement (clause 4.1(k))
Volume Boundary	VB-Coastal VB-Country	Volume Throughput Rate (clause 4.1(h)) Fixed Charge (clause 4.1(i)) Ancillary Charges (clause 4.1(j))
Volume Residential Distributed Generation Technology	VRT-03 VRT-04 VRT-06 VRT-10	Demand Capacity Rate (clause 4.1(a)) Provision of Basic Metering Equipment Charge (clause 4.1(g)) Ancillary Charges (clause 4.1(j))

(e) Demand Tariffs

Customer Type/Category	Tariff Class	Haulage Reference Service -- Reference Tariff Components
Demand Capacity	DC-1 To DC-11	Demand Capacity Rate (clause 4.1(a)) Provision of Basic Metering Equipment Charge (clause 4.1(g)) Ancillary Charges (clause 4.1(j))
	DC Country	Demand Capacity Rate comprised of: <ul style="list-style-type: none"> Capacity Distance Rate (clause 4.1(b)), and Pressure Reduction Rate (clause 4.1(c)) Provision of Basic Metering Equipment Charge (clause 4.1(g)) Ancillary Charges (clause 4.1(j))
Demand Throughput	DT	Demand Throughput Rate (clause 4.1(f)) Provision of Basic Metering Equipment Charge (clause 4.1(g)) Ancillary Charges (clause 4.1(j))
Demand Capacity - 1st Response	DCFR-6	Discounted Demand Capacity Rate (clause 4.1(d)) Provision of Basic Metering Equipment Charge (clause 4.1(g)) Ancillary Charges (clause 4.1(j))
Demand Major End Customer Throughput	DMT-01 To DMT-05	Fixed Charge (clause 4.1(i)) Demand Throughput Rate (clause 4.1(f)) Provision of Basic Metering Equipment Charge (clause 4.1(g)) Ancillary Charges (clause 4.1(j))
Demand Major End Customer Throughput - 1 st response	DMTFR-3	Discounted Fixed Charge (clause 4.1(e)) Discounted Demand Throughput Rate (clause 4.1(e)) Provision of Basic Metering Equipment Charge (clause 4.1(g)) Ancillary Charges (clause 4.1(j))

4 Initial Reference Tariffs

4.1 Haulage Reference Service

(a) Demand Capacity Rate

Customer Type	Tariff Class	Unit Rate – dollars per GJ of Chargeable Demand (CD) per annum (\$/GJ.CD.pa) Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars					
		First 50 GJ of CD	Next 150 GJ of CD	Next 400 GJ of CD	Next 1000 GJ of CD	Next 2000 GJ of CD	Rest of CD
Volume	VRT-03	450.556	421.884	202.012	146.522	123.378	112.812
	VRT-04	743.395	696.088	319.986	226.359	187.965	170.811
	VRT-06	155.014	145.45015	73.616	63.359358	63.339338	63.104
	VRT-10	241.886	226.493	109.017	85.717	75.252	84.186
Demand	DC-1	306.002	286.53053	135.142	103.138	90.965	90.904
	DC-2	339.929	318.297	148.975	112.346	95.232	20.707
	DC-3	450.556	421.884	202.012	146.522	123.378	112.812
	DC-4	743.395	696.088	319.986	226.359	187.965	170.811
	DC-5	2000.000	877.939	460.208	320.505	251.899	194.066
	DC-6	155.014	145.45015	73.616	63.359358	63.339338	63.104
	DC-7	497.715	466.042	217.686	158.167	138.142	117.951
	DC-8	937.605	877.939	460.208	320.505	251.899	194.066
	DC-9	67.606	63.304	49.141	48.979	49.415	56.734
	DC-10	241.886	226.493	109.017	85.717	75.252	84.186
	DC-11	937.605	877.939	460.208	320.505	251.899	194.066
	DC-Country	Demand Capacity Rate for DC-Country is comprised of two components of demand charge: (i) the Capacity Distance Rate; and (ii) the Pressure Reduction Rate. See tables Capacity Distance Rate (clause 4.1(b)), and Pressure Reduction Rate (clause 4.1(c)) below. These charges will be calculated for each Delivery Point and expressed as a single rate \$/GJ.CD.per annum for billing purposes.					

(b) DC Country Demand Capacity Rate, Component 1 – Capacity Distance Rate

Customer Type	Tariff Class	Distance Unit Rate – dollars per GJ of Chargeable Demand per annum per km (\$/(GJ.CD).pa per km) Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars					
		First 50 GJ of CD	Next 150 GJ of CD	Next 400 GJ of CD	Next 1000 GJ of CD	Next 2000 GJ of CD	Rest of CD
Demand	DC-Country	65.825	61.636	26.827	17.884	14.227	10.807
<i>Rates apply per km of the straight line distance from the relevant country Receipt Point rounded up to the nearest 0.5 km as determined by the Service Provider</i>							

(c) DC Country Demand Capacity Rate, Component 2 – Pressure Reduction Rate

Customer Type	Tariff Class	Pressure Reduction Unit Rate – dollars per GJ of Chargeable Demand per annum (\$/GJ.CD.pa) Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars					
		First 50 GJ of CD	Next 150 GJ of CD	Next 400 GJ of CD	Next 1000 GJ of CD	Next 2000 GJ of CD	Rest of CD
Demand	DC-Country	23.363	21.876	9.519	6.348	5.048	3.834

(d) Demand Capacity Rates for Discounted DCFR Tariffs

Customer Type	Tariff Class	Demand Capacity Unit Rate – dollars per GJ of Chargeable Demand per annum (\$/GJ.CD.pa) Period ending 30 June 2016
Demand	DCFR-6	Demand Capacity Rates set out in clause 4.1(a) for the DC-6 tariff less 50%.

(e) Fixed Charges and Demand Throughput Rates for Discounted DMTFR Tariff

Customer Type	Tariff Class	Fixed Charge – dollars per annum Period ending 30 June 2016	Demand Throughput Unit Rates – (\$/GJ) Period ending 30 June 2016
Demand	DMTFR-3	Fixed Charge set out in clause 4.1(i) for the DMT-3 tariff less 50%.	Demand Throughput Rates set out in clause 4.1(f) for the DMT-3 tariff less 50%

(f) Demand Throughput Rate

Customer Type	Tariff Class	Demand Throughput Rate (\$/GJ) Period ending 30 June 2016 Minimum chargeable quantity of 833 GJ/month Prices are real 2015-2016 GST exclusive dollars		
		First 1667 GJ per month	Next 2500 GJ per month	Rest
Demand	DT	5.16	4.18	3.71

Customer Type	Tariff Class	Demand Throughput Rate (\$/GJ) Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars		
		First 41,667 GJ per month	Next 41,667 GJ per month	Rest
Demand	DMT-1	0	0.227	0.206
	DMT-2	0	0.227	0.208
	DMT-3	0	0.394	0.337336
	DMT-4	0	0.873	0.816
	DMT-5	0	1.073	1.162

(g) Provision of Basic Metering Equipment Charges

Customer Type	Tariff Class	Standing Charge : \$/pa per Delivery Station Charges based on Delivery Point MHQ Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars					
			MHQ<10 GJ/hr	MHQ 10 to < 50 GJ/hr	MHQ 50 to < 100 GJ/hr	MHQ 100 to <1000 GJ/hr	MHQ 1000 GJ/hr and greater
Demand	All Demand Classes	Single Run	8,289	10,284	17,549	22,797	29,198
		Double Run	13,991	17,981	32,511	43,007	55,811
Volume	VRT 03, 04, 06, 10	Single Run	8,289	10,284	17,549	22,797	29,198
		Double Run	13,991	17,981	32,511	43,007	55,811

(h) Volume Throughput Rate

Customer Type	Tariff Class	Volume Throughput Rate (\$/GJ) Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars					
		First 0.63 GJ	Next 0.62 GJ	Next 1.50 GJ	Next 80.75 GJ	Next 333.5 GJ	All additional
Volume Individual	Block size (GJ per month)	First 1.89 GJ	Next 1.86 GJ	Next 4.50 GJ	Next 242.25 GJ	Next 1000.5 GJ	
	Block size (GJ per qtr)						
	VI-Coastal	23.46721.195	23.4679.384	9.0928.886	8.641693	7.433612	4.012108
	VI-Country	23.02020.735	23.0209.105	8.789576	8.340383	7.433302	3.799798

Customer Type	Tariff Class	Volume Throughput Rate (\$/GJ) Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars			
		First 20.83 GJ	Next 20.83 GJ	Next 41.66 GJ	All additional
Volume Boundary	Block size (GJ per month)	First 62.49 GJ	Next 62.49 GJ	Next 124.90 GJ	
	Block size (GJ per qtr)				
	VB-Coastal	21.12119.075	21.1218.446	8.1837.998	7.777964
	VB-Country	20.71818.661	20.7188.195	7.910719	7.506685

(i) Fixed Charge

Customer Type	Tariff Class	Standing Charge – dollars per annum Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars	
Volume Individual	VI-Coastal & VI-Country		49.499497
Volume Boundary	VB-Coastal & VB-Country		1,484.970910
Demand	DMT-1		231,327.41
	DMT-2		255,481.11
	DMT-3		311,040.74
	DMT-4		576,102.53
	DMT-5		1,080,192.18

(j) Ancillary Charges

Ancillary Charges applicable to all Tariff Classes Period Ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars		
Fee Type	Description	Charge
Hourly Charge – non-standard User-initiated requests and queries	<p>The assessment of a User's or Prospective User's requirements, collation of information and provision of a response to a User or Prospective User in relation to non-standard requests and queries. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> large customer connection or upgrade inquiries requiring additional investigation by the Service Provider due to the nature of the request; and requests for measurement data additional to data provided in standard reports. <p>Not applicable to the processing of connections and alterations under Part 12A of the National Gas Rules.</p>	\$100, plus \$100 per hour after the first hour
Disconnection (small and large customers)	<p>Disconnection of supply to a single Delivery Point at the request of the User or Customer and where the User or Customer also requests that the meter is not to be moved or removed.</p> <p>For small customers, the charge also covers the cost of subsequent reconnection made in accordance with National Energy Retail Law or Rules, the Reference Service Agreement, or in other circumstances (at the Service Provider's discretion, acting reasonably) where Delivery Station components and pipework are still installed at the Delivery Point and can be re-energised without alteration or replacement.</p> <p>A request for disconnection is also a request to remove a Delivery Point from the User's Service Agreement.</p> <p>The specific method of disconnection will be at the discretion of the Service Provider, to ensure the site is able to be left in a safe state.</p> <p>Reconnection of small customers in circumstances other than those described above and reconnection of large customers would require a new connection and a new Request for Service to be made.</p> <p>(This charge is for providing disconnection services in accordance with the relevant Applicable Law in force at the Effective Date.)</p>	\$150 Charge applies per meter set
Temporary disconnection for large customers	<p>Disconnection of supply to a single Delivery Point on a temporary basis at the request of a User for a large customer (as classified by the Service Provider at the time the request is received). The charge also covers the cost of subsequent reconnection.</p> <p>A request for temporary disconnection of a large customer is not a request to remove a Delivery Point from the User's Service Agreement. Distribution charges will continue to apply and the MHQ and MDQ (if any) for a Delivery Point will be maintained.</p> <p>The specific method of isolation will be at the discretion of the Service Provider, to ensure the site is able to be left in a safe state.</p> <p>(This charge is for providing disconnection and reconnection in accordance with the relevant Applicable Law in force at the Effective Date.)</p>	\$150 Charge applies per meter set
Decommissioning and meter removal	<p>Permanent decommissioning of a Delivery Point including the removal of the meter.</p> <p>A request for decommissioning and meter removal is also a request to remove a delivery point from the User's Service Agreement.</p> <p>The specific method of disconnection will be at the discretion of the Service Provider, to ensure the site is able to be left in a safe state.</p> <p>Subsequent reconnection of the Delivery Point is not included. Reconnection of small and large customers would require a new connection and a new Request for Service to be made.</p> <p>(This charge is for providing disconnection services in accordance with the relevant Applicable Law in force at the Effective Date.)</p>	<p>Charges apply per meter:</p> <p>(i) meters with a capacity of less than or equal to 6m³/hr: \$1050</p> <p>(ii) meters with a capacity of greater than 6m³/hr: \$2188</p>

Ancillary Charges applicable to all Tariff Classes Period Ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars		
Special Meter Reads	For meter reading requested by a User for a Delivery Point that is in addition to the scheduled ordinary meter reading comprised in the Haulage Reference Service (for instance, when the meter reader makes a special visit to read a particular meter out of the usual meter reading route or schedule). This service must be scheduled by the User with the Service Provider with a minimum 5 Business Days advance notice period in accordance with the NSW Retail Market Procedures.	\$14.80 per meter read

Note. Small customer and large customer have the meaning given to those terms in the National Energy Retail Law.

(k) Clean Energy Act repeal settlement⁸

Customer Type	Tariff Class	Clean Energy Act repeal settlement – dollars per annum Period ending 30 June 2016 Prices are real 2015-2016 GST exclusive dollars
Volume Individual	VI-Coastal & VI-Country	- 0.497

5 Initial Chargeable Demand, grandfathering of tariffs and assignment of 2010 AA V-Coastal and V-Country Tariff Classes

5.1 Initial Chargeable Demand

- (a) For existing Delivery Points that are assigned to a Tariff Class that includes the demand capacity rate charge component, if the Chargeable Demand applicable on the Effective Date is greater than the amount calculated in accordance with paragraph (b) below, the Service Provider will reduce the Chargeable Demand to equal the amount calculated in paragraph (b). These changes will be made with effect from the Effective Date.
- (b) The maximum Chargeable Demand for a Delivery Point existing on the Effective Date is the larger of the following three values:
 - (i) the ninth highest Quantity of Gas withdrawn at that Delivery Point in any one Day between 1 July 2014 and 30 June 2015;
 - (ii) ten times the MHQ of that Delivery Point on 30 June 2015; and
 - (iii) the MDQ of that Delivery Point on 30 June 2015.

⁸ Consistent with the approach agreed by the AER in [ourits](#) November 2014 tariff variation notice, this Clean Energy Act repeal settlement tariff component applies only to the period ending 30 June 2016 and is not taken into account in the reference tariff variation mechanism at section 3 of the access arrangement for tariffs from 2016-17. As such, it will be removed from future reference tariff schedules.

- (c) A reduction in chargeable demand under paragraph (a) above will not change the current Demand Reset Date for a Delivery Point and will not be regarded as a reduction request in any future reduction request initiated by the User.

5.2 Grandfathering of first response Tariffs

- (a) From the Effective Date, the DCFR and DMTR Demand Tariffs are only available for an existing Delivery Point that was considered to be assigned to these Tariff Classes in the Service Provider's revenue forecast for the Access Arrangement Period.
- (b) No other Delivery Points may qualify for assignment to the DCFR and DMTR Tariff Classes from the Effective Date.
- (c) The Service Provider will confirm whether the DCFR or DMTR Demand Tariffs are available to a particular Delivery Point in response to reasonable requests from Users or Customers.

5.3 Delivery Points assigned to the 2010 AA V-Coastal and V-Country Tariffs

From the Effective Date, all Delivery Points previously assigned to the V-Coastal and V-Country Tariff Classes will be re-assigned to the VI-Coastal and VI-Country Tariff Classes, respectively.

Schedule 3 Reference Tariff adjustment factors

1 Automatic adjustment factor (A)

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

where:

A'_{t-1} is:

- (a) zero when $t-1$ refers to Financial Year 2015-16; or
- (b) the value of A'_t determined in the Financial Year $t-1$ for all other years;

and

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

where:

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

When $t-2$ is Financial Year 2014-15, L_{t-2} is $L_{2014} * (1 + \text{realWACC}_t \cdot \text{WACC}_{2014-2015}) * (1 + \text{CPI}_{t-2} \cdot \text{CPI}_{2014-15}) + L_{2015}$,

where:

L_{2014} is the licence fee factor amount, as defined in this schedule, for Financial Year 2013-14;

L_{2015} is the licence fee factor amount, as defined in this schedule, for Financial Year 2014-15;

$\text{realWACC}_{t-2} \cdot \text{realWACC}_{2014-15}$ means the ~~pre-tax~~ real vanilla weighted average cost of capital of ~~6.677.63~~ per cent;

CPI_{t-2} is the value of CPI_t determined in 2014-15 in accordance with the methodology set out in clause;

$\text{CPI}_{2014-15}$ means the consumer price index of 1.72 per cent;

U_{t-2} is the UAG factor amount, as defined in this Schedule 3, for Financial Year $t-2$;

C_{t-2}	is the Carbon Cost factor amount, as defined in this Schedule 3, for Financial Year $t-2$. When $t-2$ is the Financial Year 2014-15 $C_{t-2}C_{2014-15}=0$;
T_{t-2}	is the Relevant Tax factor amount for Financial Year $t-2$;
$realWACC_t$	is the real vanilla weighted average cost of capital as per that set out in the AER's Final Decision and updated annually within the JGNJGN's revenue model;
CPI_t	has the same meaning as set out in clause 3.2;
CPI_{t-1}	is the value of CPI_t determined in the Financial Year $t-1$;
X_t	has the same meaning as set out in clause 3.2;
p_{t-1}^{xy}	has the same meaning as set out in clause 3.2; and
q_{t-2}^{xy}	has the same meaning as set out in clause 3.2.

2 Factor amounts

2.1 Licence fee factor amount

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

- (a) the actual cost incurred by the Service Provider as a result of any AER, IPART, AEMO, EWON or any other relevant regulator, authority or State or Commonwealth Government's authorisation fees, licence fees or statutory charges imposed on the Service Provider which is related to the ownership or operation of the Network in Financial Year $t-2$,

minus

- (b) the forecast of the cost incurred by the Service Provider as a result of any AER, IPART, AEMO, EWON or any other relevant regulator, authority or State or Commonwealth Government's authorisation fees, licence fees or statutory charges imposed on the Service Provider which is related to the ownership or operation of the Network included in the AER's relevant final decision for Financial Year $t-2$.

2.2 UAG factor amount

When $t-2$ is 2014-15, the UAG factor amount for $t-2$ is to be calculated as follows:

- (a) the benchmark cost incurred by the Service Provider for purchases of gas as UAG, calculated as the product of:
- (i) gas receipts in gigajoules for Financial Year 2014-15;
 - (ii) the UAG Cost for Financial Year 2014-15 in \$/gigajoule;
 - (iii) the UAG target rate of 2.34 per cent of gas receipts,

minus

- (b) \$13.1M (\$2010), being the forecast of the total UAG costs included in the AER's final decision for Financial Year 2014-15 as set out in Schedule 8 of the 2010-15 Access Arrangement.

For all other Financial Years in the Access Arrangement Period, the UAG factor amount for Financial Year $t-2$ is to be calculated as follows:

- (a) the benchmark cost incurred by the Service Provider for purchases of gas as UAG, calculated as the sum of:

the product of:

- (i) aggregate gas withdrawals at all daily metered Delivery Points in gigajoules during Financial Year $t-2$;
- (ii) the UAG Cost for Financial Year $t-2$ in \$/gigajoule; and
- (iii) the UAG component target rate of 0.427 per cent of daily metered withdrawals,

and the product of:

- (i) aggregate volume market residual receipts in gigajoules for Financial Year $t-2$, calculated as aggregate Gas receipts for Financial Year $t-2$ less aggregate gas withdrawals at all daily metered Delivery Points during Financial Year $t-2$;
- (ii) the UAG Cost for Financial Year $t-2$ in \$/gigajoule; and
- (iii) the UAG component target rate of 5.16per cent of volume market residual receipts:

minus

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

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

2.3 Carbon Cost factor amount

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

- (a) the actual cost incurred by the Service Provider, as approved by the AER, as a result of the operation of a Carbon Scheme, in Financial Year $t-2$,

minus

- (b) the forecast of the cost incurred by the Service Provider, as approved by the AER, as a result of the operation of a Carbon Scheme and included in the AER's relevant final decision, in Financial Year $t-2$.

2.4 Relevant Tax factor amount

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

- (a) the actual cost incurred by the Service Provider in paying any Relevant Tax, in Financial Year $t-2$,

minus

- (b) the forecast of the cost incurred by the Service Provider in paying any Relevant Tax included in the AER's relevant final decision, in Financial Year $t-2$.

2.5 Cost Pass Through factor

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

where:

PT'_{t-1} is:

- (a) zero when $t-1$ refers to Financial Year 2014-15;
- (b) the value of PT_t determined in the Financial Year $t-1$ for all other Financial Years in the Access Arrangement Period,

and

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

where,

AP_t is:

- (a) any Determined Pass Through Amount that the Service Provider proposes to pass through in whole or in part in Financial Year t , and / or
- (b) any pass through amounts arising from cost pass through events (as that term is defined in the access arrangement applying to this Network in the immediately prior access arrangement period) occurring in the immediately prior access arrangement period that the Service Provider proposes to pass through in whole or in part in Financial 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 Reference Tariffs;

CPI_t has the same meaning as set out in clause 3.2;

X_t has the same meaning as set out in clause 3.2;

A_t is the automatic adjustment factor for Financial Year t as defined in this Schedule 3;

P_{t-1}^{xy} has the same meaning as set out in clause 3.2;

Q_{t-2}^{xy} has the same meaning as set out in clause 3.2.

Schedule 4 Reference Service Agreement

The terms and conditions for the Reference Service are set out in the separate Reference Service Agreement, 1 July 2015 – 30 June 2020. The Reference Service Agreement, 1 July 2015 – 30 June 2020 forms part of this Access Arrangement.

Schedule 5 Interconnection of Embedded Network Service

The Service Provider ordinarily provides the Interconnection of Embedded Network Service specified in clause 2.5 of the Access Arrangement on the following terms and conditions.

1.1 Availability

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

1.2 MDQ and MHQ

- (a) The Embedded Network Operator will be required to specify an annual quantity, MHQ and MDQ which fairly reflects the maximum annual, Hourly and Daily requirements at the Delivery Point, as well as the 24 hour profile of hourly flow based on prior consumption where that information is available.
- (b) The Service Provider's maximum obligation to deliver gas to the Delivery Point under Service Agreements with all Users is the MHQ in any Hour and the MDQ on any Day specified by the Embedded Network Operator and agreed by the Service Provider.

1.3 Metering

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

1.4 Authorisation of Embedded Network

- (a) Conditions precedent to the Service Provider providing an Embedded Network Service will include the Embedded Network Operator:
 - (i) having in place all relevant authorisations, approvals and licences required to operate the Embedded Network; and
 - (ii) entering into an agreement with the Service Provider for an Interconnection of Embedded Network Service.
- (b) For the avoidance of doubt, an Interconnection of Embedded Network Service is separate from and additional to a Service(s) requested by a User for the

transportation of gas through the Network to the Embedded Network Delivery Point.

1.5 Delivery Station and Delivery Point

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

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

1.6 Load Shedding

- (a) The Embedded Network Operator will be subject to Load Shedding arrangements. The Embedded Network Operator must have facilities available to it to reduce or discontinue the withdrawal of Gas if called upon to do so.
- (b) Unless there is an agreement on Load Shedding between the Service Provider and the Embedded Network Operator, all load of the Embedded Network Operator will be subject to Load Shedding priority 2 as described in Schedule 6. Network

transportation services for the delivery of Gas to the Embedded Network Delivery Point will be subject to the same Load Shedding priority.

- (c) The Embedded Network Operator will participate in gas balancing arrangements if required.

1.7 Cathodic Protection of Facilities

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

1.8 Installation and Operation

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

1.9 Abandonment/Disconnection

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

1.10 Approvals and Indemnity

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

1.11 Charges

The following charges will be agreed between the Embedded Network Operator and the Service Provider:

- (a) Charge for engineering investigation;
- (b) Charge for provision of interconnection facilities;
- (c) provision of Measuring Equipment.

Schedule 6 Request for Service

1 Access and Requests for Services

In order to obtain access to a Negotiated Service or a Haulage Reference Service a User or Prospective User will observe the following requirements:

- (a) A Prospective User must lodge a Request and meet all financial obligations and demonstrate creditworthiness pursuant to clause 28 of the Reference Service Agreement. Where the MHQ is expected to exceed 6m³/Hour a Request must include as a minimum the level of detail envisaged by this Schedule 6. Where the MHQ is expected to be less than 6m³/Hour the Request must include such details as requested by the Service Provider from time to time.
- (b) A Prospective User may have only one active Request in relation to the same tranche of capacity for a particular Delivery Point.
- (c) The Service Provider will within the shortest reasonable time and in any event within 20 Business Days of receiving a complete Request, respond to the Request in accordance with rule 112 of the National Gas Rules.
- (d) A Request will lapse unless, within 20 Business Days of the Service Provider advising that capacity is available for the Request, the Prospective User has either entered into a Reference Service Agreement or commenced bona fide negotiations to do so.⁹
- (e) Where there is sufficient capacity to meet a Request, there will be no queue.
- (f) Where there is insufficient capacity to satisfy a Request, then a queue will be formed and the Queuing Policy will apply.

⁹ A Request for Service will not lapse in the event of a dispute being notified under the National Gas Law until that dispute has been resolved in accordance with the National Gas Law.

Request for Service Form

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

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

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

1 Prospective User Information

Name of Prospective User:

A.B.N

Contact
Officer

Position Title

Telephone

Email

Fax

Customer Contact Details:

Name

Position Title

Telephone

Fax

2 Receipt Point Information

Receipt Point

Location

Entity supplying inlet
gas

3 Delivery Point Information

Delivery Point Business Name

A.B.N.

Delivery Point Street Address

Postcode

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

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

4 Transportation Information

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

Service Commencement Date

Duration of Service Agreement Sought

ANZIC code(s)

Gas Applications

AQ (GJ/yr) Annual Quantity

MDQ (GJ/day) Maximum Daily Quantity

MHQ (GJ/hr) Maximum Hourly Quantity

5 Delivery Station Pressure

Delivery Station Pressure (kPa) —

Metering pressure (1.38, 2.75, 7.0, 35, 100, if other please specify)

6 Appliance & Gas Load Information

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

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

7 Fuel Conversion Information

(if applicable)

Current Fuel Type

Current Annual Consumption (GJ/yr)

8 Delivery Station Information

If the customer requires other than a standard single run meter set, please specify:

Is the proposed meter set located indoors? Y / N

Is a security compound required? Y / N

9 DELIVERY STATION LOCATION SKETCH

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

1. length of customer service (path valve to meter set);
2. surface restoration from front boundary to meter set;
3. any walls to be pierced or other obstacle, e.g. stairs, retaining walls etc. to be negotiated;

4. all buildings and any other permanent structures on the site;
5. side and front building lines, and kerb line;
6. bearing (north).

Schedule 7 Operational Schedules

1 Load Shedding

1.1 Load Shedding Principles

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

1.2 Load Shedding Priorities

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

Load Shedding Priority	Load Type
1	All interruptible Loads.
2	All Load at a Delivery Point which serves more than one customer or other end user, and where no arrangement exists between the Service Provider and the operator of the facilities beyond the Delivery Point for shedding loads served by those facilities.
3	All Load at sites where gas is not used for production.
4	All Load at sites where load is transferable to an alternative fuel.
5	Load that may be reduced without damage to product or plant.
6	Load that may be halted without damage to product or plant.
7	Load where halting will cause product damage.
8	Load where halting will cause plant damage.
9	Load not transferable to alternative fuel at hospital and essential service sites.
10	All Load at Volume Tariff Delivery Points expected to consume less than 10 TJ per annum (Residential, Commercial and Industrial).

1.3 Restoration of Service

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

1.4 Suspension

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

1.5 Liability

The Service Provider will not be liable for any losses, liabilities or expenses incurred by the User and/or a User's customer arising from Load Shedding, where the Service Provider acts in accordance with the principles of this Access Arrangement in good faith.

1.6 Emergency Load Management Systems (ELMS)

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

2 Establishment of Receipt Points

- (a) Any person (including a User or Prospective User) seeking to interconnect with the Network for the purpose of enabling a User or Prospective User to deliver gas to the network for onward transportation may seek to establish a new Receipt Point.
- (b) A new Receipt Point may only be established on the Network if the Service Provider consents to the proposed location of the new Receipt Point. The Service Provider will only withhold its consent to a proposed location of a new Receipt Point on the basis of technical, operational or safety considerations.

- (c) The person seeking to establish a new Receipt Point must enter into an agreement with the Service Provider covering, without limitation, the following matters:

Receipt Point and Equipment Upstream

- (i) The new Receipt Point, and the pipe or system of pipes upstream of the new Receipt Point, must comply with the following requirements in order to ensure that the integrity, safety and operating ability of the Network is not compromised:
- (A) the new Receipt Point must have an associated Receipt Station (as described in the Service Agreement);
 - (B) to safeguard against the hazards of over pressurisation of the Network, the Receipt Station must be equipped with overpressure protection facilities in accordance with the Service Provider's usual standards and requirements, including Australian Standard 2885, at the expense of the person seeking to establish the new Receipt Point;
 - (C) a remotely controlled isolation valve operable by the Service Provider must be installed at the outlet of the Receipt Station upstream of the new Receipt Point, at the expense of the person seeking to establish the new Receipt Point;
 - (D) the new Receipt Point will be at the flange immediately upstream of the facilities described above, or as otherwise agreed by the Service Provider. All facilities upstream of the new Receipt Point will be the responsibility of the person seeking to establish the new Receipt Point;
 - (E) the operational mode of a Receipt Station for a new Receipt Point must be compatible with the operational mode of the Network;
 - (F) the hot tap connection to connect the facilities to the Network will be designed and constructed with the Service Provider's usual standards and requirements, including Australian Standard 2885, at the expense of the person seeking to establish the new Receipt Point;
- (ii) Modifications may be required to the Network and/or the Service Provider systems to integrate the new Receipt Point into the operation of the Network. Requirements will vary depending on the location of the new Receipt Point. The party seeking to establish the new Receipt Point will bear the reasonable costs of such modifications, whether identified before or after installation of the new Receipt Point unless the Service Provider can recover them from Users of the new Receipt Point.

Cathodic Protection of Facilities

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

Installation and Operation

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

Schedule 8 Return on debt extrapolation

1 AER Extrapolation methodology

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

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

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

Where:

$Yield_{10}^{RBA\ AER}$ is the extrapolated RBA BBB yield at the effective 10 year tenor using the AER methodology;

$Yield_{10}^{RBA}$ is the RBA BBB yield estimate at the target 10 year tenor;

$Spread_{10}$ is the RBA's estimated spread to swap at the target 10 year tenor;

$Spread_7$ is the RBA's estimated spread to swap at the target 7 year tenor;

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

$Tenor_7$ is the effective tenor associated with the RBA's estimated spread to swap at the target 7 year tenor.

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

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

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

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

Where:

$Yield_{10}^{BVAL\ AER}$ is the extrapolated BVAL yield at the effective 10 year tenor using the AER methodology;

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

$Yield_T^{BVAL}$ is the Bloomberg BVAL fair value yield for tenor T ;

$Yield_{10}^{RBA\ AER}$ is the extrapolated RBA BBB yield at the effective 10 year tenor, extrapolated using the AER methodology in accordance with 1.1 above; and

$Yield_T^{RBA\ AER}$ is the RBA BBB yield estimate at effective tenor T , calculated in accordance with paragraph (b) below.

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

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

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

Where:

T	is the longest available tenor of 10 years or less at which the Bloomberg BVAL curve reports fair value yields;
T_{low}	is the target tenor associated with the highest effective tenor available from RBA data that is lower than T . If no effective tenor is lower than T then T_{low} is the lowest target tenor from RBA data. Notwithstanding this, if T is greater than all RBA effective tenors then T_{low} is equal to the second highest effective tenor available from RBA data;
T_{high}	is the target tenor associated with the lowest effective tenor available for RBA data that is higher than T . If no effective tenor is higher than T then T_{high} is equal to the highest target tenor from RBA data. Notwithstanding this, if T is less than all RBA effective tenors then T_{high} is equal to the second lowest effective tenor available from RBA data;
$Yield_T^{RBA}$	is the RBA BBB yield for target tenor T ;
$Tenor_T$	is the effective tenor associated with target tenor T ;
$Spread_{T_{high}}$	is the RBA's estimated spread to swap at target tenor T_{high} ;
$Spread_{T_{low}}$	is the RBA's estimated spread to swap at target tenor T_{low} ;
$Tenor_{T_{high}}$	is the effective tenor associated with target tenor T_{high} ; and
$Tenor_{T_{low}}$	is the effective tenor associated with target tenor T_{low} .

2 — SAPN extrapolation methodology

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

(a) — Calculation of the 10-year extrapolated yield

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

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

Where:

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

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

Tenor₁₀ is the effective tenor associated with the RBA's estimated spread to swap at the target 10 year tenor.

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

(a) Calculation of the 10 year extrapolated yield

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

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

Where:

Yield₁₀^{BVAL-SAPN} is the 10 year extrapolated BVAL yield using the SAPN methodology;

Spread₁₀^{BVAL-SAPN} is the extrapolated spread to swap at 10 years maturity, extrapolated using the SAPN methodology in accordance with paragraph below;

Swap₁₀ is the 10 year swap rate published by Bloomberg.

(b) Calculation of BVAL spread to swap curve

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

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

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

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

Where:

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

Spread_T is the BVAL estimated spread to swap at tenor *T*, calculated in accordance with above;

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

Schedule 9 Receipt Point Pressures

The Service Provider will notify Users of changes to the requirements set out in this schedule, and publish the updated schedule on its website. The Service Provider may also add minimum or maximum flow requirements for flow controlled Receipt Points.

1 Country Network Sections of NSW Distribution System and Central West Distribution System

Upstream pipeline (Allows receipt of Gas from this asset, which does not form part of the Network)	Location of Receipt Point	Max. Receipt Pressure at Receipt Point (kPa)	Min. Receipt Pressure at Receipt Point (kPa)	Areas of Network downstream of Receipt Point
Country Network Sections				
MSPS- Moomba to Young	West Wyalong	6895	1750	West Wyalong
MSPS - Young to Lithgow	Cowra	10 000	1750	Cowra
	Blayney	10 000	1750	Blayney
	Orange	10 000	1750	Orange
	Millthorpe	10 000	1750	Millthorpe
	Bathurst	10 000	1750	Bathurst, Kelso, Raglan
	Oberon	10 000	1750	Oberon
	Lithgow	10 000	1750	Lithgow
	Wallerawang	10 000	1750	Wallerawang
MSPS - Young to Wagga	Young	10 000	1750	Young
	Cootamundra	10 000	1750	Cootamundra
MSPS - Burnt Creek to Griffith	Junee	10 000	1750	Junee
	Coolamon	6895 ⁺	1750	Coolamon
	Ganmain	6895 ⁺	1750	Ganmain
	Narrandera	6895 ⁺	1750	Narrandera
	Rockdale	6895 ⁺	1750	Rockdale
	Leeton	6895 ⁺	1750	Leeton, Yanko
	Murrami	6895 ⁺	1750	Murrami

Upstream pipeline (Allows receipt of Gas from this asset, which does not form part of the Network)	Location of Receipt Point	Max. Receipt Pressure at Receipt Point (kPa)	Min. Receipt Pressure at Receipt Point (kPa)	Areas of Network downstream of Receipt Point
	Yoogali (Griffith)	6895 [*]	1750	Griffith
MSPS - Young to Wilton	Boorowa	6895	1750	Boorowa
	Yass	6895	1750	Yass
	Goulburn	6895	1750	Goulburn
	Marulan	6895	1750	Marulan
	Sally's Corner	6895	1750	Exeter, Bundanoon
	Moss Vale	6895	1750	MossVale, Berrima
	Bowral	6895	1750	Bowral, Mittagong
	Bargo	6895	1750	Bargo, Picton, Tahmoor
Central West Pipeline – Marsden to Dubbo	Dubbo ^{cw}	10,000	1750	Dubbo, Wellington
	Dubbo West ^{cw}	10,000	1750	Dubbo West
	Forbes ^{cw}	10,000	1750	Forbes
	Parkes ^{cw}	10,000	1750	Parkes
	Narromine ^{cw}	10,000	1750	Narromine

* Upgrades to the Service Provider's facilities are required to accommodate 10 000 kPa.
“cw” Network Section forms part of the Central West Distribution Network

2 Coastal Network Sections of the NSW Distribution System and the Wilton-Newcastle Pipeline and the Wilton Wollongong Pipeline

Upstream pipeline (Allows receipt of Gas from this asset, which does not form part of the Network)	Location of Receipt Point	Max. Receipt Pressure at Receipt Point (kPa)	Min. Receipt Pressure at Receipt Point (kPa)	Areas of Network downstream of Receipt Point
<i>Wilton - Newcastle Network Section</i>				
Eastern Gas Pipeline (EGP)	Horsley Park CTS	4500 [^]	3600+	Sydney Blue Mountains Central Coast Newcastle Lower Hunter
Moomba Sydney Pipeline System (MSP)	Wilton CTS	6895	3800+	
Camden Coal Seam Methane	Rosalind Park CTS	4500 [^]	3800+	
Tomago Hexham Pipeline (proposed)	Hexham CTS ¹ (proposed)	5,000 ^{**}	2,200+	
<i>Wilton - Wollongong Network Section</i>				
Eastern Gas Pipeline (EGP)	Port Kembla CTS	3,500	2,600+	Wollongong Shellharbour Kiama
Eastern Gas Pipeline (EGP)	Albion Park CTS	14,895	3,000+	
Moomba Sydney Pipeline (MSP)	Wilton CTS	6895	3800+	

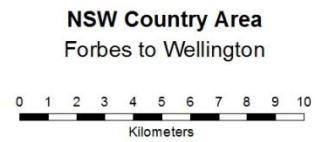
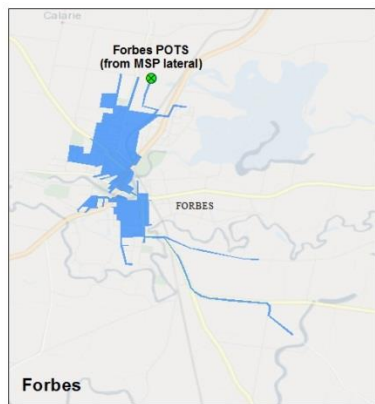
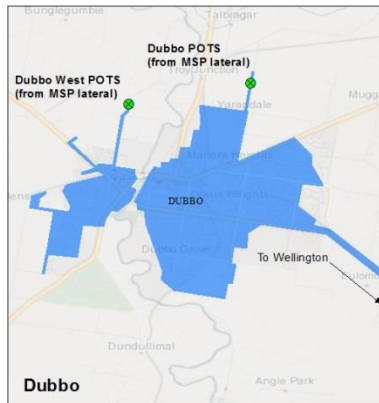
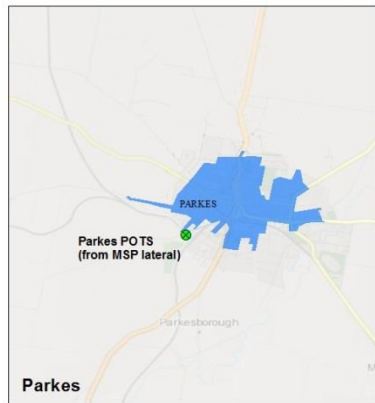
If marked "+" then the Minimum Receipt Pressure may be subject to future increase to the Maximum Receipt Pressure

[^] 4500 kPa maximum Receipt Pressure limitation is in place to satisfy technical code & licence requirements due to third party activity. Maximum Receipt Pressures will be reinstated to 6895 kPa when code and licence requirements allow.

^{**} Upgrades to the Service Provider's facilities are required to accommodate 6,895 kPa.

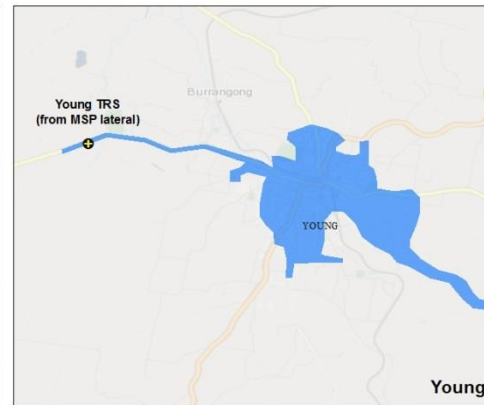
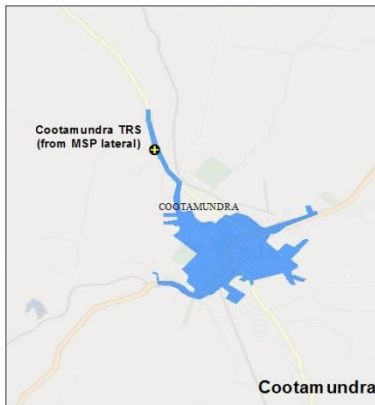
¹ Hexham CTS is expected to be established prior to 1 July 2015.

Schedule 10 Maps of the Network

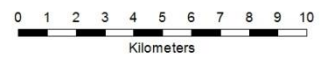


Legend

JGN Network Gas Coverage



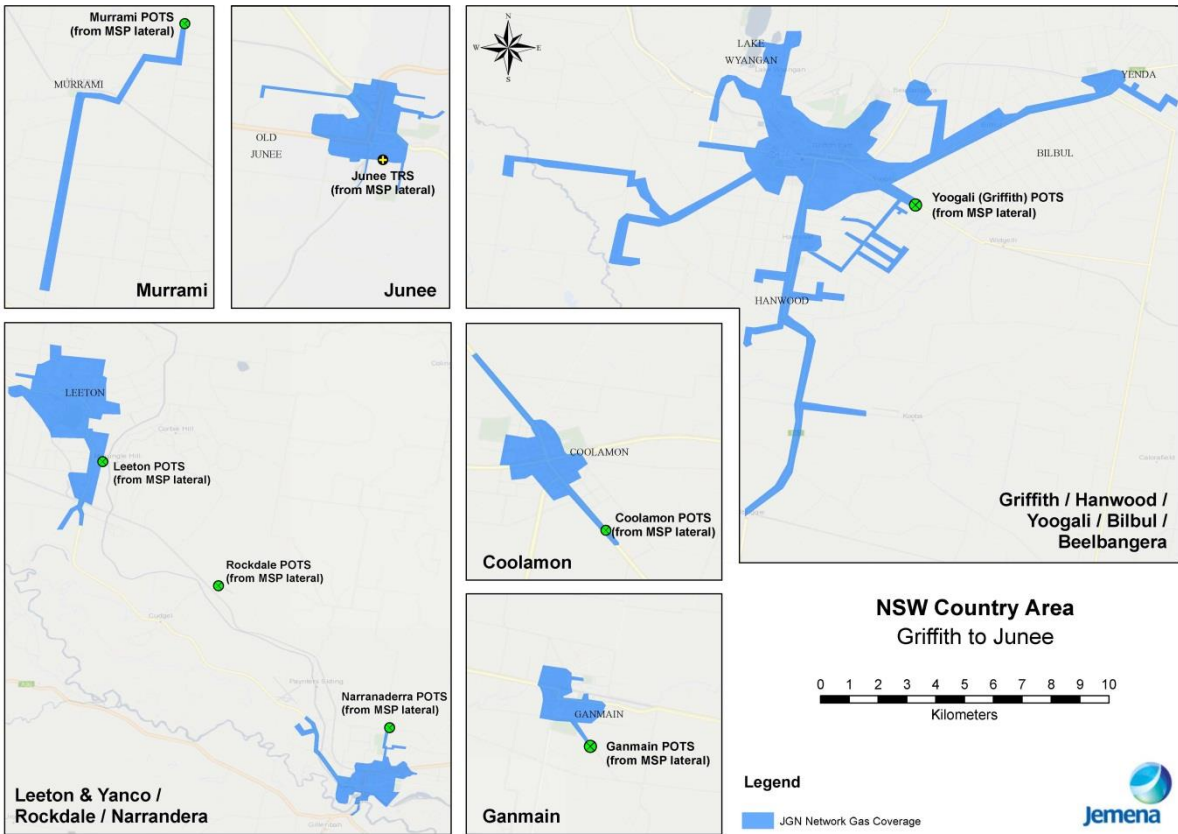
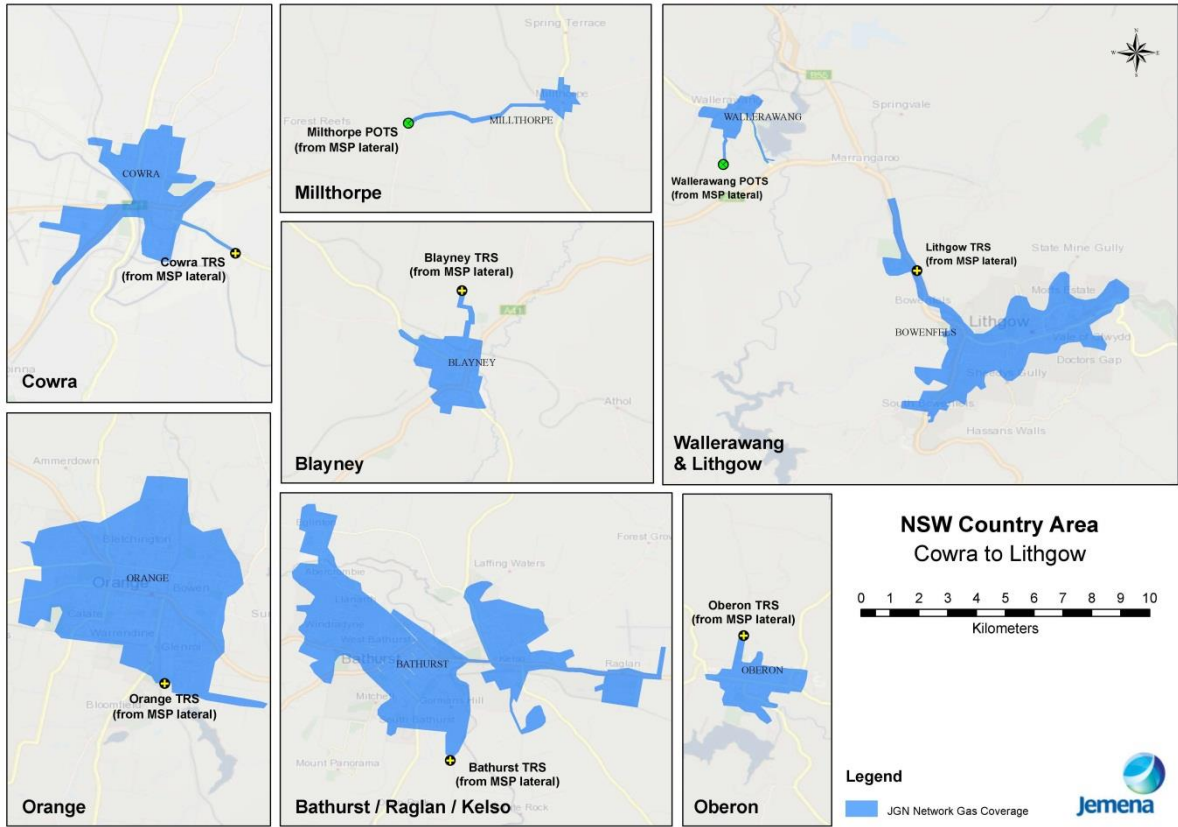
NSW Country Area
West Wyalong to Boorowa

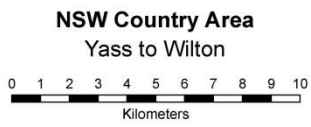
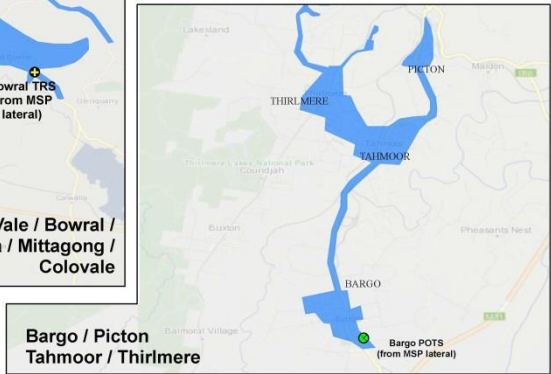
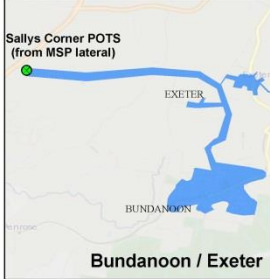
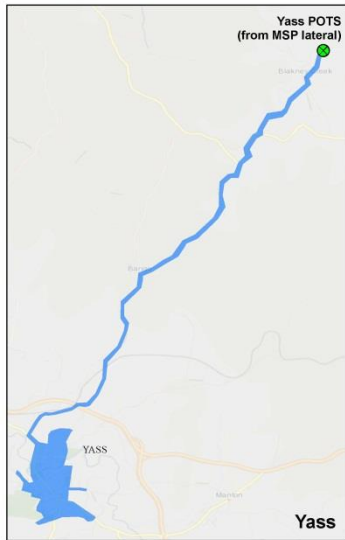
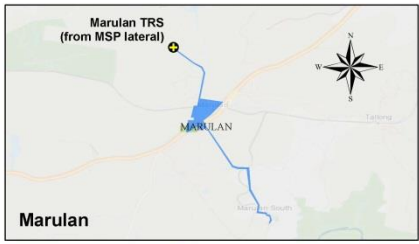
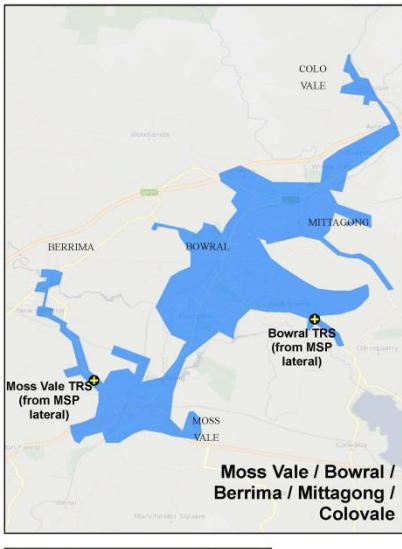
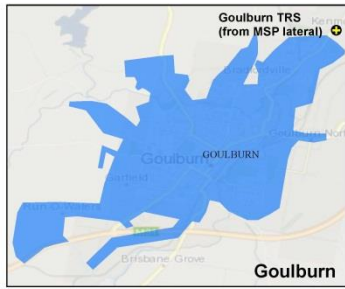


Legend

JGN Network Gas Coverage







Maps of high capacity mains (Wilton Network Section)

