Jemena Gas Networks (NSW) Ltd

2020-25 Access Arrangement Proposal

Attachment 4.1

Our reference service and tariffs

Jemena
bringing energy to life

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Abbreviations

AA	Access Arrangement
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
AIC	Average Incremental Cost
CAM	Cost Allocation Methodology
Capex	Capital expenditure
DC	Demand capacity
DCFR	Demand capacity first response
DMT	Demand major end-user (throughput)
DT	Demand throughput
ECA	Energy Consumers Australia
ENP	Embedded Network Provider
EWON	Energy and Water Ombudsman NSW
FR	First response
IPART	Independent Pricing and Regulatory Tribunal
LRMC	Long Run Marginal Costs
MDL	Meter Data Logger
NGR	National Gas Rules
O&M	Operational and Maintenance
Opex	Operating expenditure
PIAC	Public Interest Advisory Centre
PV	Present Value
UAG	Unaccounted for Gas
VB	Volume Boundary
VI	Volume Individual
VRT	Volume residential distributed generation technology
WACC	Weighted Average Cost of Capital
WAPC	Weighted Average Price Cap

1. Introduction

Chapter 7 of our 2020 Plan derives our total revenue requirements for each year of the 2020-25 Access Arrangement (**AA**) period. JGN recovers this revenue by charging our customers[1]—categorised as "Users" in our AA—for the services we provide.

Chapter 4 of our 2020 Plan provides the key information on our prices targeted at customers. This attachment sets out in detail JGN's proposal for its services and how our associated reference tariffs comply with the National Gas Rules (**NGR**). The attachment is set out as follows:

- Section 2 summarises how customer and stakeholder feedback has informed our reference service and tariffs parts of our Plan
- Section 3 outlines the pipeline services we can provide, what constitutes our reference service for which we charge reference tariffs and the changes we are proposing for our ancillary charges
- Section 4 summarises our reference tariffs, assignment criteria and charges for the 2020-25 AA period, highlighting proposed changes—including to our demand customer reset policy
- Section 5 explains how we have allocated revenue to services
- Section 6 outlines how we set our network prices, including how we have:
  - developed economically efficient reference tariffs
  - considered transaction costs and the ability of customers to respond to price signals
  - incorporated prudent discounts within the 2015-20 AA period
  - developed our strategy for setting prices
- Section 7 describes our proposed tariff variation mechanism for reference services.

[1] For the purposes of our Access Arrangement, the customers that we bill are retailers and self-contracting users, categorised as "Users". However, our tariffs and charges become part of the bills paid by end-customers—the consumers of gas. For much of our Access Arrangement Information we refer to our customers as the end-customers who consume gas, however they are not who we bill and we make this differentiation throughout this Attachment.

2. How customer feedback has informed our plans

2.1 Results from engagement with our customers prior to our Draft 2020 Plan

In preparing our 2020 Plan we engaged with customers and stakeholders on a number of areas directly or indirectly related to our services and tariffs.

The key things we heard prior to publishing our Draft 2020 Plan in January 2019 were:

- Affordability is a top priority.[2]
- Retail bills are complex for households—and especially socially and economically disadvantaged customers—to understand. Simplicity is valued.[3]
- Retailers generally prefer simple network tariffs.[4]
- Residential customers would prefer our annual price changes (our price path) was targeted toward providing smoother annual *retail bill changes*.[5] Large business customers prefer steady or decreasing *network bills*.[6]
- Residential customers love using gas in their homes, and expect us to secure the future of gas in NSW.[7]
- Customers expect us to only recover our efficient costs, and want us to continue operating with the current level of reliability.
- Our proposed changes to volume boundary metering should consider the end-customer's gas experience and provide enough time for developers to adapt.[8]
- Large business customers supported our approach to reset demand capacity values as at 1 July 2020.[9]

2.2 Since our Draft 2020 Plan was published

Following the publication of our Draft 2020 Plan, there were a number of key engagement activities that discussed services and tariffs:

- Our deep dive session with customer advocates and the Australian Energy Regulator (**AER**).
- Our 21 February 2019 webinar with large business customers.
- Our fourth deliberative forum with our residential customers.[10]
- Formal responses to our Draft 2020 Plan.

2.2.1 Deep dive session

At our deep dive session we discussed volume boundary metering. Concern was raised about end-customer protections and outcomes, and uncertainty about the comprehensiveness and appropriateness of the regulatory arrangements in place for embedded network providers (**ENP**).

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2 See Chapter 2 of our 2020 Plan.

3 See Attachment 2.2.

4 See Attachment 2.1.

5 See Attachment 2.2.

6 See Attachment 2.2.

7 See Attachment 2.2.

8 See Chapter 4 of our 2020 Plan.

9 See Attachment 2.2.

10 See Attachment 2.2.

We heard interest in:

- what this means for end-customers' "retailer choice" given they can only choose their ENP by way of a collective body corporate decision to change and have no individual ability to replace them with another ENP or a retailer
- clarifying the ability for ENPs to obtain retailer exemptions and for customers to access ombudsman facilities
- whether a solution with an ENP provides a cheaper overall outcome for the end-customers.

We discuss this in further detail in Chapter 4 of our 2020 Plan.

2.2.2 Large business customer webinar

On 21 February 2019, we held a webinar for large business customers. The topics we covered included:

- the price review process
- price expectations and price path
- our AA, including our services and the chargeable demand reset (1 July 2020 reset and simplified process for future reset requests)
- updates to our Reference Service Agreement.

2.2.3 Fourth deliberative forum with residential customers

At our fourth, and concluding, residential customer deliberative forum, we:

- presented our Draft 2020 Plan price path that provided year-on-year real price decreases
- highlighted that this price path is most likely to deliver the "steady as it goes" retail bill scenario
- heard customers' preference for steady bills extends beyond 2025.

We asked customers how well they considered we had incorporated their views on the price path developed over the earlier forums into our Draft 2020 Plan. 91% of forum participants considered that we had met their preferences for price path either quite well or very well. The remaining 9% considered we had met their preferences somewhat well or were neutral to the question. Some of the recorded feedback from participants included:

> *'Totally agree with this' (Griffith)*
>
> *'Absolutely accurate as to what the Bathurst forum asked for. I agree (personally) with the decision to have "steady as it goes"'.*

We discuss the outcomes of stakeholder engagement specifically in relation to price path in further detail in Chapter 4 of our 2020 Plan.

2.2.4 Formal responses to our Draft 2020 Plan

In addition to the feedback from our customers on our Draft 2020 Plan at the deliberative forum, we also received written submissions from the Public Interest Advisory Centre (**PIAC**)[11] and Energy Consumers Australia (**ECA**).[12] Table 2–1 provides the feedback that we received in relation to our services and tariffs, together with our response.

[11] PIAC, *Submission to Jemena Gas Networks' Draft 2020 Plan*, 21 March 2019 (available on https://yournetwork.jemena.com.au/draft-2020-plan/documents).

[12] Energy Consumers Australia, *Jemena Gas Networks Draft 2020 Plan Submission*, March 2019 (also available at the above link).

Table 2–1: Summary of submissions on our Draft 2020 Plan

Author	Topic	Feedback	How we are responding
ECA	Tariff structures	Consider what scope there is to modify (including assessment of potential consumer impacts) the tariff/charging arrangements for residential and small commercial customers to incentivise greater and continued usage of the network – For example: • Tiered tariff arrangements • Rebate schemes on appliances.	JGN currently has a fixed charge and six declining blocks for our volume customers. We agree that encouraging utilisation is important, but have also heard that simplicity is strongly desired by residential customers to understand their bills and by retailers to reduce transaction costs. We consider our current level of tiering provides an appropriate balance between simplicity and tariffs that will encourage utilisation. We are conscious that for utilisation to be improved by greater tiering, our price signals would need to be provided to customers. That is, retailers would need to reflect our tiered structures. However, we have heard retailer preference for simplicity and are aware that not all retailers currently offer all the blocks we offer. We are therefore not convinced that making changes to our block structure would have a material utilisation impact at this time and it may increase complexity without a commensurate improvement in utilisation. As rebates relates to our operating expenditure, we respond to this point in Attachment 6.1.
ECA	Volume boundary metering	Outline the case for mandating boundary-only meters for new apartment buildings with centralised hot water systems – in particular, that limiting choice for customers will not lead to higher overall costs for consumers in all sized apartment complexes (if it reduces the level of competition).	Our approach to volume boundary metering saves around $6M in capex per annum and therefore reduces growth of our regulated asset base, which benefits all JGN customers.[13] Our approach also seeks to have wider benefits via keeping gas competitive in the high-rise embedded network market.

[13] This is an increase from the estimated benefit provided in our Draft Plan due to undertaking a more detailed analysis with up-to-date data.

Author	Topic	Feedback	How we are responding
PIAC		PIAC supports Jemena's intent in proposing to minimise its capital expenditure through the use of volume boundary metering for new high-rise sites with centralised hot-water systems. It recommends Jemena continue to work with the AEMC and other stakeholders to ensure that the prospective customers who would be served by volume boundary metering continue to receive appropriate protections and support.	We understand the concerns surrounding end customer outcomes and the reduced level of retail choice. We are providing input to the Australian Energy Market Commission's (**AEMC**) review into the regulatory framework for embedded networks. This review is considering the appropriate protections for customers served by an ENP. We note that ceasing our proposed approach to volume boundary metering would not remove the issues for those customers already being served by boundary meters both in NSW and in other jurisdictions. We are also seeking to put in place a pricing strategy to support ENP competition and, therefore, positive end-customer outcomes (refer section 6.2). See Chapter 4 of our 2020 Plan for a detailed discussion.
ECA	Unbundling the disconnection and reconnection charge	Query what would be the consumer benefit of unbundling this service	We agree that a case has not been made to unbundle the reconnection and disconnection ancillary activities. (See section 3.2.2).
ECA	Separating the meter data service from the reference service	The services should be separated if gas metering contestability is allowed.	We are not aware that gas metering contestability is a current NSW Government priority or of any plans for this to be introduced in NSW by 2025. Consistent with customer and stakeholder preference for simplicity, we are therefore proposing to retain a single reference service. (See section 3.2)
ECA	Case for wasted visit charge	Clearly outline a case for the inclusion of this charge, including whether there is to be a corresponding decrease in other ancillary charges.	We have incorporated a wasted visit charge to increase the level of transparency and cost reflectivity of our disconnection/reconnection charge and our special meter read charge. By including a cost reflective wasted visit charge, this takes pressure off the completed service charge for that activity. Our prices for our ancillary charges are calculated based on a build-up of individual costs. That cost build-up currently includes all costs for wasted and competed visits. By separating out the charges we can better target costs appropriately. We note that our ancillary charges are changing for other reasons as well including back-office efficiency, improving cost reflectivity and our approach to overheads. (See section 3.2)

Author	Topic	Feedback	How we are responding
ECA	Tariffs	Consider a separate reference tariff or surcharge to cover augmentation for Sydney new airport precinct.	We frequently consider our tariff strategy and what tariffs will best meet our pricing objectives (see section 6.2). For our large commercial and industrial customers we already differentiate tariffs by location (see section 4). We will be able to consider the appropriate tariff and contribution for the customer when connection offers are being made. This is necessary as the tariff and any customer contribution—if their individual circumstances warrant one—need to combine to ensure efficient connections. In terms of our residential and small to medium commercial customers, we have looked at the case for a separate tariff for the Western Sydney Aerotropolis region and do not consider this is in customers' long term interests. Our initial estimates do not show a revenue shortfall compared to the costs to augment our network to the area. This means existing customers would actually benefit from sharing our fixed costs amongst the many potential new customers in this region. A new tariff would not improve our efficiency pricing objective and nor would it meet our pricing objective for simplicity, which is strongly supported by customers and retailers. Again, this does not exclude the potential for some customers who want to connect to the network from providing a customer contribution if their individual circumstances warrant it.
ECA	CPI	Query whether Sydney CPI is more appropriate to use in tariff variation mechanism.	We do not see a case for change as the current CPI approach is the common approach used by other gas and electricity distributors and accepted by the AER.
ECA	Side constraint	A 10% side constraint is consistent with regulatory precedent and supports smoothing of network bill.	We agree. We have had a 10% side constraint for a number of regulatory periods and considers this is still justified (see section 6.2.1).
ECA	Price path	Smoothing over-recovery return appears to be in consumers interests.	We agree. We have heard a clear message from our residential customer forum to do what we can to enable stability of customer's retail bills.

3. The services we provide to our customers

JGN provides services for which we charge our customers via our tariffs. JGN categorises our customers as "Users" in our AA. As part of our 2020 Plan, we need to describe the pipeline services that we can provide and specify the reference services.

On 14 March 2019, the AEMC published a new rule within the NGR, which changes how to categorise services as reference services.[14] In the sections below we outline our current services, then describe how these change in our 2020 Plan—including how they comply with the new rule.

3.1 Our current services

A reference service was previously described in the NGR as a service that is likely to be sought by a significant part of the market. It is governed by a standard set of terms and conditions in our AA. The AA also includes non-reference services, which are pipeline services negotiated on a case-by-case basis and with reference to relevant AA schedules.

We currently provide a single Haulage Reference Service, which includes:

- receiving gas injected from an upstream gas pipeline or other gas facility
- transporting gas from the receipt point to each customer's premises
- enabling withdrawal at each customer's premises
- providing gas metering equipment at customers' premises and associated services to read the quantity of gas flowing through the gas meters
- procuring gas to replenish the difference between the measured quantities of gas entering and leaving the network, known as Unaccounted for Gas (or **UAG**)
- undertaking certain activities requested by Users that are ancillary to transportation services, including special meter reads, disconnection, decommissioning and meter removal, and responding to non-standard requests.

The Haulage Reference Service is delivered to Users on the terms and conditions set out in our current Reference Service Agreement.[15]

In addition to the Haulage Reference Service, we also currently make non-reference services available to Users. These include:

- The interconnection of embedded network service—a service to a single delivery point that is an embedded gas network
- Negotiated services—a service for the transportation of gas on terms and conditions different to those applicable under the Reference Service or the interconnection of embedded network service.

3.2 Our services for the 2020 Plan

In our stakeholder engagement, we heard that:

- households prefer simplicity and some struggle to understand how their bills are calculated[16]

[14] Australian Energy Market Commission, *Regulation of covered pipelines,* Final Rule determination, 14 March 2019.

[15] A revised Reference Services Agreement is submitted as part of our 2020 Plan.

[16] See Attachment 2.2.

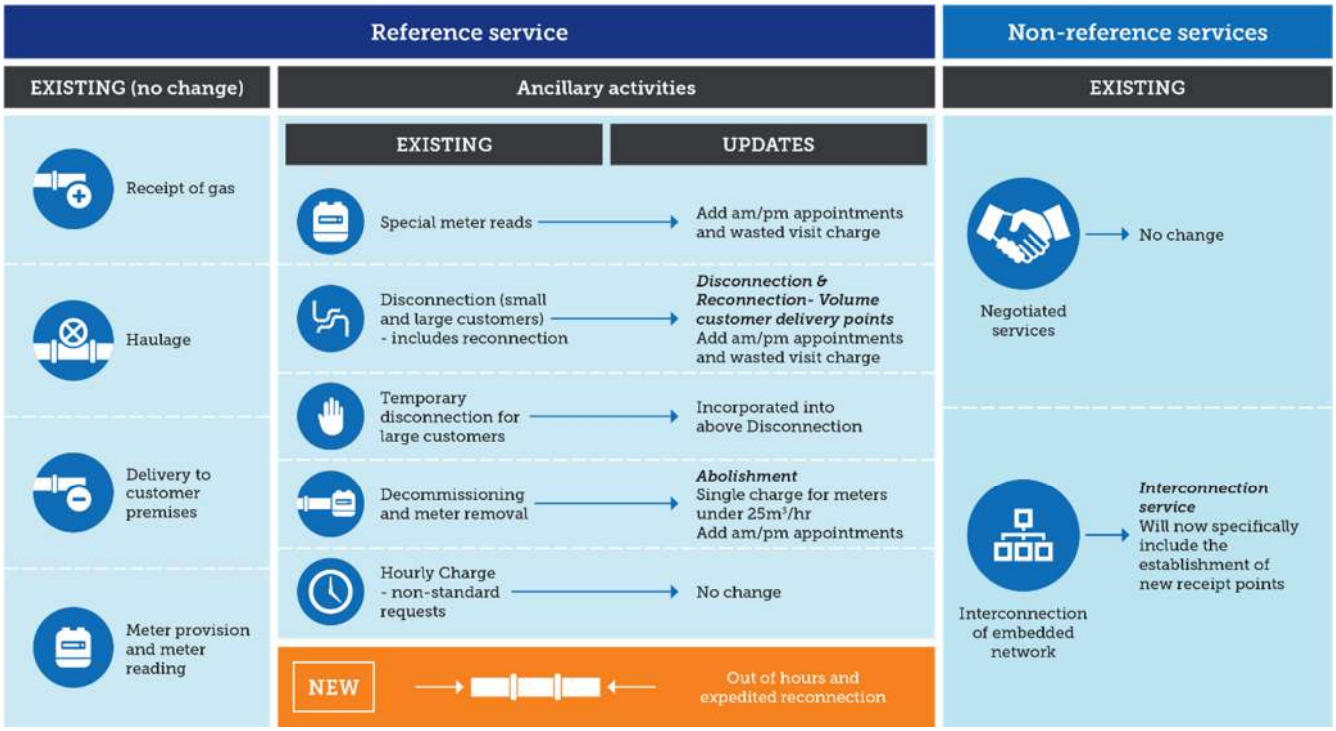
- retailers prefer simplicity and want to minimise costly system changes that are ultimately paid by consumers.[17]

As a result of our engagement activities, we consider that we can reduce complexity and improve the understandability of our services and charges by:

- renaming the Haulage Reference Service to "Reference Service" and retain all the associated service offerings as our current single Haulage Reference Service
- making changes to our ancillary charges to improve clarity of the activity and cost-reflectivity of the charge, including the addition of am/pm appointments and a clear expedited reconnection service
- maintaining our non-reference services, but also for our 'Interconnection of embedded network' service:
  - change the name to sufficiently differentiate it from services provided by the embedded network providers for commercial and residential high-rise buildings; and
  - include the interconnection of new upstream facilities.

These changes are shown in Figure 3–1.

Figure 3–1: JGN's current services and proposed updates



3.2.1 Retaining a single reference service

In response to customer feedback during the development of our 2015 Plan five years ago, we simplified our service offerings to bring meter reading and data services within the Haulage Reference Service. This meant we could reduce the number of our charges.

During our current program of customer and stakeholder engagement, we continued to hear concerns about the complexity of bills and how they are made up. We also asked for feedback on a single reference service in our Draft 2020 Plan. In response, ECA noted its preference that if gas metering contestability is allowed, then a meter service should be separated from the primary transportation service. We are not aware that gas metering

[17] See Attachment 2.1.

contestability is a current NSW Government priority or of any plans for this to be introduced in NSW by 2025. We are, therefore, proposing to retain a single reference service – the 'Reference Service'.

For our ancillary activities that sit within the Reference Service, we have considered what we heard about complexity, and are proposing to update these to make them simpler and more cost reflective. We also propose to add a new expedited service for reconnections and include the ability to choose am/pm[18] appointments for reconnection, special meter reads and abolishments.

3.2.2 Updates to clarify and improve existing ancillary charges

After engaging with stakeholders, we propose to make the following changes to our ancillary charges. Our proposed price levels for our ancillary charges for 2020-21 are provided in section 4.5.

Disconnection (small and large customers)—to be renamed *Disconnection & Reconnection – Volume Customer Delivery Points*

In our Draft 2020 Plan we set out our approach for disconnections, noting we were seeking to improve clarity, were considering including appointments and the fairness of charging for wasted visits.

In response to our Draft 2020 Plan, the ECA considered the potential for unbundling the Disconnection and Reconnection service.[19] The ECA noted the AER's previous position[20] on this and indicated that a clear case of consumer benefit is required to persuade them that unbundling the service would be in customers' interests. The ECA also sought greater clarity on the case for a wasted visit charge and whether this results in price decreases elsewhere.

Our proposed changes are:

- **Change the name**: To improve clarity and to reflect that the charge includes the reconnection, we have changed the name to "*Disconnection & Reconnection – Volume Customer Delivery Points*". For the avoidance of doubt, the charge only occurs once and covers both disconnection and reconnection.
- **Update the description and merge the service with the "Temporary disconnection for large customers" service:** Our disconnection/reconnection costs are not materially impacted by the size of a volume customer.[21] We have therefore updated the description of the activity to be clear that the same activity is available for disconnection of all volume customer's sites, regardless of whether they are "small" or "large" volume customers. Additionally, we are proposing that network charges will cease 20 Business Days after disconnection for all volume customers, in contrast to the current situation where network charges were treated differently for small volume (<1TJ) and large customers. This means that we can simplify our service offerings by removing the existing and identically-priced *Temporary disconnection for large customers*, which involved duplication.
- **Be clear and transparent on approach for demand customers**: Disconnections for demand customers (over 10TJ per annum) are uncommon[22] with highly variable costs depending on factors such as retailer or site requirements, meter size and type of main connected to. These will therefore be individually priced to provide a more cost reflective charge.
- **Improve service via appointments:** We are proposing to improve our service by offering am/pm appointments for reconnections.

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18 An "AM" appointment is at any time between 7.00 AM and 12.00 mid-day and a "PM" appointment is at any time between mid-day and 5.00 PM on a Business Day. There is no additional cost for this request.

19 ECA, Response to JGN's Draft 2020 Plan, Attachment A, p. 19.

20 AER, Final decision, JGN distribution access arrangement 2015-20, Attachment 10 – Reference tariff setting, June 2015; AER Draft decision, JGN distribution access arrangement 2015-20, Attachment 10 – Reference tariff setting, November 2014.

21 We call our residential and commercial customers 'volume customers'. These are all customers with annual consumption under 10 terajoules. These are detailed further in Section 4.

22 At time of publication, there has been only one disconnection of a demand customer in the 2015 AA period.

- **Charge for wasted visits:** We consider it fair, transparent and cost reflective to provide a specific wasted visit charge to ensure we recover the costs from those Users who requested the service, but did not provide safe access for us to complete the works. By separating out wasted visit charges, this cost is no longer incorporated into the price for completed disconnections/reconnections, providing downward price pressure.[23]

We have not proposed to have separate disconnection and reconnection charges

Our disconnection service is predominantly utilised by retailers to temporarily stop the supply to customers who have not paid. During the 2015 review of our AA, some retailers queried why our disconnection service and charge incorporates the reconnection service to reconnect gas to the site.

For the 2015 AA, we maintained a combined disconnection/reconnection charge—as per the 2005 AA and 2010 AA—which was approved by the AER[24], to support:

- reducing financial barriers to customers reconnecting to the gas network, which benefits all customers—because it best supports increased utilisation and increasing our customer base to share our fixed costs—and puts downward pressure on our network prices; and
- vulnerable customers, by providing an incentive for retailers to exhaust all debt management options prior to seeking a disconnection.

As part of our 2020 Plan, we engaged with retailers on their preference for the disconnection service to also include the cost of the subsequent reconnection. We received mixed views about whether we should keep this as one service, or separate it into two. Some retailers told us that they are concerned with the process and IT costs associated with making a change, while others consider splitting the charge is more logical and simple. Our Customer Council did not provide a strong preference either way.

Similar to the ECA view, we do not have any compelling evidence of customer benefit to change our current approach and are therefore proposing to maintain the current charging structure.

Decommissioning and meter removal—to be renamed *Abolishment*

This service involves abolishing, or permanently removing, the gas service to the customer premises. The activities within this service can involve removing the meter and isolating the gas service from the main. To do this we may need to access the plastic or steel mains by saw-cutting the road and digging down to the main, disconnecting the service from the main by cutting the service and capping the stub, backfilling the excavated site and making a restoration[25] of impacted areas, for example, footpaths and/or roads. These activities often also require traffic management.

In our Draft 2020 Plan we set out our proposed approach for our current Decommissioning and meter removal service. We highlighted that we were seeking to improve clarity in the name and description of the services.

We did not receive any feedback on our proposed approach.

Since the Draft 2020 Plan, we further investigated the cost-reflectivity of our abolishment charges and the incentives a high abolishment charge may create for unsafe practices by customers—or their agents—who are seeking to rebuild and reconnect following an abolishment. This has led to some additional changes to what we had described in our Draft 2020 Plan.

Our proposed changes are:

[23] See section 4.5.1 on proposed changes to our ancillary prices.

[24] AER, Final decision, JGN Access Arrangement 2015-20, Attachment 10 – Reference tariff setting, p. 10-7.

[25] For hard surfaces, we provide an initial temporary restoration and then we incur the cost for any permanent Council restoration works required.

- **Change the name:** rename, from *Decommissioning and meter removal* service to an "*Abolishment*" to avoid confusion. In particular, in the gas market, a site which has been temporarily disconnected is flagged as "decommissioned". For the avoidance of doubt, the abolishment service remains the same—we typically disconnect and remove the meter as well as disconnecting the service line from our main.
- **Change the structure of the charge:** We currently have two abolishment charges—one for meters less than or equal to 6m^3/hr and one for those above 6m^3/hr. This was to reflect the different costs to abolish customers at that time. We no longer consider this is the best and most cost-reflective means to differentiate customers.

  Our field work and back office costs do not vary significantly for all meters under 25m^3/hr.[26] We have therefore proposed a single price for abolishments under 25m^3/hr.

  For meters above 25m^3/hr, works undertaken requires at least two speciality gas service technicians and the total cost varies for a number of factors such as meter size, type of main connected to and the bespoke restorations required. We currently have around 80 abolishments of meters over 25m^3/hr per year of which under 30 abolishments per year are off a steel main. We therefore consider that abolishments for meters over 25m^3/hr and/or on steel mains should be individually priced to recover the costs of the work, taking into account any historical factors that contribute to the level of costs. This approach to individually pricing to recover costs occurs within other gas networks.[27]
- **Improve service via appointments:** We are proposing to improve our service to offer am/pm appointments for abolishments.

Special meter reads

In our Draft 2020 Plan we indicated including a possible charge for wasted visits.

The ECA sought greater clarity on the case for a wasted visit charge and whether this results in price decreases elsewhere. The justification for the special meter read wasted visit is the same as for disconnections.

As with disconnections/reconnections, we will offer an am/pm appointment service and propose to add a cost-reflective charge for wasted visits.

3.2.3 Expedited reconnection

In our Draft 2020 Plan we indicated that we were considering including expedited reconnections as part of our ancillary charges.

We did not receive any feedback on this in response to our draft 2020 Plan. However, customer sentiment during our engagement has been clear that we should pursue efficient initiatives that can improve the customer experience.

We are therefore proposing to include an "*Expedited reconnection" service*. This service would enable a disconnected customer to be reconnected in more urgent timeframes than currently available or required by Law. This could be as quick as being reconnected between 4pm and 7pm the same day, should JGN receive the request by 2pm. Expedited services provide greater optionality and convenience for customers and are common amongst electricity distributors.

This expedited service would not impact the normal reconnection service that customers can expect, but provides the customer with additional choice. In section 4.5, we have proposed a price based on a bottom-up build of only those costs that are additional to those already paid by the User[28] as part of the reconnection element of the *Disconnection & Reconnection – Volume Customer Delivery Points*.

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[26] Costs per abolishment do vary by whether a restoration is required or not. However, this cost is not known at the time of providing a price to a Network User. We have therefore estimated a restoration unit cost by averaging total historical restoration costs (for meters under 25m^3/hr) across the number of abolishments for meters within this range.

[27] Both AusNet and Australian Gas Networks do not publish set prices for abolishment works with their set of ancillary charges.

[28] And therefore likely passed on to the customer.

We consider providing this additional customer choice at a cost reflective price—such that it will not increase costs for those customers who do not choose the service—is in the long term interests of customers.

3.2.4 List of proposed ancillary charges

Our proposed list of ancillary charges are shown in Table 3–1.

Table 3–1: JGN ancillary activities and charges from 1 July 2020

Requested ancillary activity	Description	Proposed charge structures
Hourly charge—non-standard retailer-initiated requests and queries	The assessment of a User's requirements, collation of information and provision of a response in relation to non-standard requests and queries. Examples include, but are not limited to: • customer connection or upgrade inquiries that, due to the nature of the request, require additional investigation; and • requests for measurement data additional to data provided in standard reports. This charge is not applicable to the processing of connections and alterations under Part 12A of the NGR.	• Hourly charge (min charge of 1 hour)
Disconnection & Reconnection – Volume Customer Delivery Points	Disconnection of supply when the meter is not to be moved or removed. The charge also covers the cost of subsequent reconnection made in accordance with National Energy Retail Law or Rules, our Reference Service Agreement, or in other circumstances where delivery station components and pipework are still installed at the delivery point and can be re-energised without alteration or replacement. Reconnection in circumstances other than those described above requires a new connection and a new Request for Service to be made. A request for disconnection is also a request to remove the delivery point from our Customer List.[29] This means that no reference tariffs will be charged once off the customer list until reconnected. The specific method of disconnection will be at the our discretion to ensure the site is able to be left in a safe state.	• Completed service charge • Wasted visit charge
Expedited reconnection	Reconnection of a volume customer delivery point in a shorter time-frame than required under Law (typically on the day of the request for reconnection or as otherwise agreed between the User and JGN). The reconnection is performed between 4.00pm and 7.00pm on a Business Day.	• Completed service charge
Abolishment	Permanent decommissioning of a delivery point, usually including the removal of the meter. A request for abolishment is also a request to remove the delivery point from the Customer List. This means that no reference tariffs will be charged once off the Customer List. The specific method of abolishment will be at our discretion to ensure the site is able to be left in a safe state. Subsequent reconnection of the delivery point requires a new connection and a new Request for Service to be made.	• Completed service charge for meters at or under 25m^3/hr • Meters over 25m^3/hr will be individually priced

[29] Note that we are updating our Reference Service Agreement to provide greater clarity that, if not reconnected, the customer will automatically be removed from the Customer List 20 business days after the disconnection unless reconnected prior.

Requested ancillary activity	Description	Proposed charge structures
Special meter read	For meter reading that is in addition to the scheduled ordinary meter reading (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 in accordance with the NSW Retail Market Procedures.	• Completed service charge • Wasted visit charge

3.2.5 Non-reference services

We are proposing to change the name of our *interconnection of embedded networks* service to *Interconnection Service*.

Renaming this non-reference service avoids the potential for confusion with the growth of ENPs for high-rise buildings and shopping centres. Connection of these premises to our network is done as part of the normal connection procedures under chapter 12A of the NGR, and we deliver gas to these premises under our Reference Service. Our original *interconnection of embedded networks service* has never applied to these types of customers.

Additionally, the clarification more closely aligns to the actual service, which was originally devised to accommodate the connection of a gas distribution network within the geographic area of our network. To provide clarity for parties seeking to establish a new upstream connection to our network – for example, a new pipeline or gas production plan, we have broadened the scope of the service to include interconnection of upstream facilities.

3.3 How our services meet new rule requirements

JGN falls under the transitional provisions set out in of the *Regulation of covered pipelines* rule change that commenced on 21 March 2019.[30] The transitional provisions do not apply new rules 46 and 47A of the NGR to JGN, and instead a modified rule 48 applies.

Table 3–2 sets out how we have complied with modified rule 48.

Table 3–2: How we have met new rule requirements related to our services

Modified rule	High level description	JGN compliance
48(1)(a)	Identify the pipeline and link to website where a description exists	The pipeline is identified in clauses 1.2 and 11.1, as well as Schedule 10, of the AA, which can be found on our website here: https://yournetwork.jemena.com.au/ Further information on the JGN network can also be found in Attachment 1.2 'Background to the JGN Network' and here: https://jemena.com.au/gas

[30] Australian Energy Market Commission, *Regulation of covered pipelines,* Final Rule determination, 14 March 2019.

Modified rule	High level description	JGN compliance
48(1)(b)	Describe all the pipeline services that we can reasonably provide having regard to the characteristics of different pipeline services in rule 47A(2).	JGN can reasonably provide 3 pipeline services by means of the network: 1. Haulage service – receipt, transportation and delivery of gas including provision of metering equipment and meter reading; together with ancillary activities including disconnection, reconnection, special meter reads, abolishment. 2. Interconnection service – service for establishment of a new receipt point to enable injection of gas into the network, or to establish a new delivery point to enable delivery of gas for use in third party downstream network. 3. Negotiated service – service where a user has specific needs which cannot be met by the haulage service or the interconnection service. These are described in section 2 of the AA.
48(1)(c)	Specify which services described in rule 48(1)(b) are reference services, having regard to the reference service factors.	The haulage service is a reference service. Table 3–3 provides analysis against the reference service factors.
48(1)(d)	Customer feedback received	JGN has kept in mind the feedback received from customers and stakeholders who prefer simplicity (see section 2). This leads us to maintain the current position of a single reference service so as to minimise the number and complexity of network charges applicable to a single customer.
48(1)(e)	For each reference service, specify the reference tariff and the terms and conditions on which the reference service will be provided.	Reference tariffs for the reference service are described in section 4 and set out in Schedule 2 of our 2020 AA. The terms and conditions are included within our 2020 AA, which includes our updated Reference Service Agreement.
48(1)(f)	If the access arrangement is to include queueing requirements - set out the queuing requirements	Our AA does not need to include queuing requirements unless, in accordance with rule 103(1)(b) of the National Gas Rules, the AER has notified the Service Provider that this Access Arrangement must contain queuing requirements. At the Effective Date, the AER has not notified the Service Provider of the need to include queuing requirements.
48(1)(g)	Set out the capacity trading requirements	Our capacity trading policy is set out in section 9 of our 2020 AA.
48(1)(h)	Set out the extension and expansion requirements	Our extension and expansion policy is set out in section 8 of our 2020 AA.
48(1)(i)	State the terms and conditions for changing receipt and delivery points	Our changing receipt and delivery points policy is set out in section 10 of our 2020 AA.
48(1)(j)	State the review submission date (if any) and the revision commencement date	Our review submission date is stated in clause 1.3 of our 2020 AA. The revision commencement date is set out in clause 1.4 of our 2020 AA.
48(1)(k)	State the expiry date (if any)	There is no expiry date.

Table 3–3 provides our assessment of our pipeline services against the reference service factors.

Table 3–3: Assessment of pipeline services against the reference service factors

Reference service factors (NGR rule 47A(15))	Haulage service	Interconnection service	Negotiated service
(a) Actual & forecast demand for the service, number of prospective users	✓ Service for delivery of gas to all customers in the network; sought by all Users (retailers and self-contracting users).	× Very low demand. Under our updated definition of the service that would include the connection of upstream facilities there have been: • four historical interconnections with upstream pipelines/facilities and one downstream interconnection • two new upstream interconnections established during the current AA period.	× Minimal demand for service forecast. There is currently only one negotiated service for the provision of maintenance work and for which there is no associated consumption.
(b) Extent to which the service is substitutable with another service to be specified as a reference service	n/a	× Proposed reference service is for receipt & delivery of gas to customers; does not cover establishment of interconnections with upstream and downstream facilities.	× Explicitly designed for requirements which cannot be met by the Reference Service.
(c) Feasibility of allocating costs to the service	✓	✓	✓
(d) Usefulness of specifying service as a reference service in supporting access negotiations & dispute resolution for other services	✓	× Service and agreements will be bespoke, reflecting costs & requirements for new delivery or receipt point.	× Service and agreements will be bespoke, reflecting costs & requirements for service.
(e) Likely regulatory costs for all parties in specifying the service as a reference service	✓ Relatively low regulatory costs	× Relatively high regulatory costs given low, ad-hoc demand	× Relatively high regulatory costs given low, ad-hoc demand
Conclusion	**Reference service**	**Non-reference service**	**Non-reference service**

(1) A tick(✓) indicates that our assessment of the service against the individual reference service factor suggests weighting the conclusion toward specifying the service as a reference service. A cross (×) indicates weighting our conclusion toward not specifying the service as a reference service.

4. Tariff classes and charge components

Our tariffs are set to enable us to recover our revenue requirements for each year of the 2020-25 AA period as set out in Chapter 7 of our Draft Plan. This section is provided to help understand how we charge and to demonstrate we have complied with certain rule requirements that guide how we should construct our charges.

4.1 Summary

We charge retailers, so customer's gas bills won't usually show our charges itemised, particularly for volume customers. However, a customer's retail bill may have a similar structure to ours.

'Charge components', 'Tariff structures', 'tariffs', and 'tariff classes' are the language used to refer to and understand our network charges.

The charge components can include:

- *a fixed charge component*—an annual supply or metering charge (depending on customer size) that applies to each premises gas is delivered to ($ per annum)
- *a variable charge component*—a usage charge that applies to the volume of gas a customer uses or requires as capacity. We offer declining block usage rates, meaning the price per unit falls the more gas is used. This is to encourage utilisation of our network
- *ancillary charges*—fees for certain services or activities—such as special meter reads—that apply only when Users or customers have requested those services.

The group of charge components is the 'tariff structure'.

Most of our customers pay the fixed and variable charges, but the levels they pay varies to reflect their different characteristics, and the different ways they use gas. When we include the associated prices, we would call that a customer's 'tariff'. Some customers may also pay an ancillary charge if they request those activities and their retailer may pass on the charge we imposed on them or some different amount.

Not all customers face the same tariffs. The tariff a customer pays depends on their characteristics, such as their size, location and metering. We group customers together to ensure similar customers pay similar prices. These groupings are known as our 'tariff classes'. Our tariff classes and the type of charges for each is shown in Figure 4–1.

At the broadest level, we set our tariff classes by differentiating between:

- residential and small commercial customers consuming <10TJ per annum ('volume market')
- large industrial customers consuming ≥10TJ per annum ('demand market').

We then differentiate by location:

- *Volume market*—we split between country and coastal customers.[31] This enables us to only charge coastal customers for our Sydney trunk line between Wollongong and Newcastle, which primarily benefits them.
- *Demand market*—we split customers into 12 zones based on postcode, to reflect the cost of providing gas distribution to different parts of our network.

Finally, we differentiate by metering:

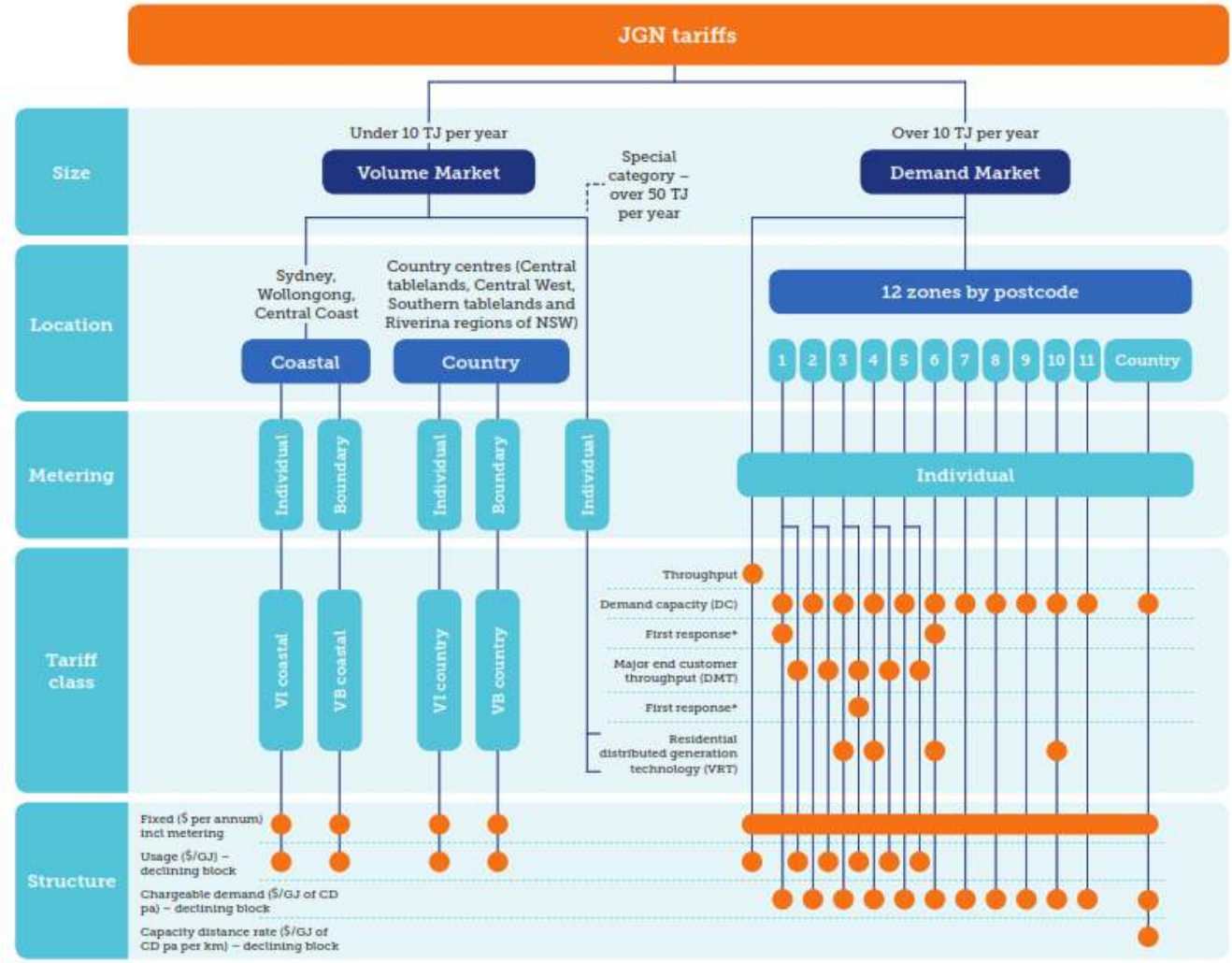
- for volume customers, we have different tariff classes depending on whether we meter the end-customer individually or whether we use a boundary meter

[31] Our network serves customers in coastal areas, such as Sydney, Newcastle, Wollongong and the Central Coast, and over 20 country centres including those within the Central Tablelands, Central West, Southern Tablelands and Riverina regions of NSW.

- for demand customers, the levels of fixed charges will depend on the size and type of metering they require and use.

All our charges are set out in our tariff schedule that is updated and published annually—applying from 1 July to 30 June each year. As these are our prices for our reference service, they are often referred to as 'reference tariffs'. Our initial tariff schedule for the 2020 Plan is found in Schedule 2 of our proposed AA.

Figure 4–1: Our reference tariff classes



*Grandfathered tariff. Not available to new entrants

We propose retaining our current set of tariff classes. We provide additional detail on these tariff classes below.

4.2 Residential and Commercial customers tariff classes

We call our residential and commercial customers 'volume customers'. We have eight volume customer tariff classes, as set out in Table 4–1. All customers in the volume customer tariff classes are subject to ancillary charges as outlined in Table 4–4 for any ancillary activity they request.

Table 4–1: JGN's proposed volume reference tariff classes

Tariff category	Number of tariff classes	Tariff classes	Types of end-customers[32]	Structure (fixed in $/annum and usage in $/GJ)
Volume individual (**VI**) metered	2	VI-Coastal VI-Country	Most of our 1.4 million existing customers and new customers, including residential and small - medium businesses, with individual metering consuming up to 10TJ per annum.	Fixed charge ***Usage block*** / ***Block size pa (GJ)*** / ***Typical usage*** 1 / 0-7.56 / Residential cooking 2 / 7.56 – 15 / Residential hot water or heating 3 / 15 – 33 / Residential hot water and heating 4 / 33 – 1002 / Heating and small commercial load 5 / 1002 – 5004 / Small commercial load 6 / Above 5004 / Light industrial
Volume boundary (**VB**) metered	2	VB-Coastal VB-Country	Residential end customers in higher density residential developments and small business customers in commercial developments supplied energy by an energy intermediary, such and an ENP, that sits between the boundary meters and the end customers.	Fixed charge ***Usage block*** / ***Block size (GJ)*** 1 / 0 – 250 2 / 250 – 500 3 / 500– 1000 4 / Above 1000
Residential distributed generation technology (**VRT**)	4	VRT-03, VRT-04, VRT-06, VRT-10[33]	Predominantly residential end customers supplied energy by an energy intermediary using a large-scale generation unit in a residential precinct (consuming more than 25TJ per annum).[34]	Fixed charge (dependent on meter size) and 6 declining blocks charged on $/GJ of chargeable demand (equivalent to demand capacity tariff in that postcode).

32 End-customers are those that consume the energy, rather than an intermediary who on-sells energy or services to end-customers.

33 The VRT tariff classes are differentiated by a number, which indicates their locations. The numbers relate to the same postcodes as the demand tariff class numbering. The four VRT tariff classes are the locations we expect this type of customer to arise. It does not preclude us adding other locations should qualifying customers arise in those locations.

34 Note that we are adjusting this from the current 50TJ threshold to 25TJ. See Section 4.2.3.

4.2.1 Country and coastal tariff classes

Our network serves customers in coastal areas, such as Sydney, Newcastle, Wollongong and the Central Coast, and over 20 country centres including those within the Central Tablelands, Central West, Southern Tablelands and Riverina regions of NSW.

We group our volume customers by 'country' and 'coastal' locations to reflect the relative costs of supplying these customers. The different costs involved in serving our coastal and country customers are primarily due to the costs of the Wollongong-Sydney-Newcastle trunk pipeline that serves only the coastal customers.

4.2.2 Boundary-metered tariff classes

JGN introduced boundary metering in 2015 in response to demand for reference tariffs being made available to energy intermediaries. This product was designed to encourage innovative, efficient and customer focused energy services, while ensuring gas remained a competitive fuel choice in the high rise market. Boundary gas metering is now our fastest growing metering solution, with the number of connections tripling between 2016-17 and 2017-18. This means that the NSW market for companies that offer gas embedded-network solutions is growing and becoming more competitive.

We expect ENPs will provide gas or hot water to around 106,000 apartments by 2025. There are currently 12 active ENPs in NSW, and we would like to facilitate the market to ensure customers have a positive gas experience. It is therefore timely to refine the solutions we offer, to ensure this market develops efficiently and for the benefit of customers.

We consider retaining these boundary tariff classes will continue to encourage innovative, efficient and customer focused energy services. We discuss our approach to the boundary metered tariff class in more detail in Chapter 4 of our 2020 Plan, including what we have heard from customers and the benefits of our approach.

4.2.3 Distributed generation technology tariff classes

JGN has four volume tariffs where we do not apply the 10TJ delineation that would normally lead the customer to be assigned as a demand customer. These VRT tariffs are for large-scale innovative energy technologies, such as large cogeneration plants, that primarily provide services to the residential market. While take-up of these tariff options is currently low, we consider it is important to maintain these offerings to the market as they provide additional incentives consistent with promoting load growth and improved network utilisation. We have lowered the threshold from 50TJ to 25TJ per annum to increase the number of customers and potential customers that may qualify for this tariff. We consider that this remains cost reflective as these customers characteristics would more closely match those of the demand market customers.

Smaller cogeneration installations at residential medium-density sites will qualify for the VB volume boundary reference tariffs.

4.3 Large industrial and commercial customer tariff classes

We call our large industrial and commercial customers "demand customers". Demand customers are expected to use more than 10TJ of gas each annum.

We have 18 open demand customer tariff classes, as set out in Table 4–2. We also have three 'first response' tariff classes that have been grandfathered since 1 July 2015 and will continue to be for the 2020-25 period.

Table 4–2: JGN demand customer tariff classes

Tariff category	Number of tariff classes	Tariff class names	Types of customers	Reason for inclusion
Capacity country	1	DC Country	Most of our large industrial customers.	Maintains existing tariff classes.
Capacity coastal	11	DC1 to DC11		
Throughput (**DT**)	1	DT		
Major end-user (throughput) (**DMT**)	5	DMT1 to DMT 5		
First response (**FR**)	3	DCFR-01, DCFR-06 & DMTFR-03	Several large industrial customers with flexibility in operations to reduce demand as a first priority response.	These are grandfathered tariff classes that continue to provide benefits to the market and existing users of this tariff class.

4.3.1 Capacity country and coastal

There are 12 capacity tariff classes—one for country customers and 11 for coastal customers based on postcode groupings.[35] We are proposing to maintain the current grouping of postcodes to differentiate by location and have added new postcodes where these have been created.

Capacity tariff classes are the default category for demand customers. These are for customers that pay for gas transportation on the basis of capacity. However, customers are able to select the throughput demand tariff category below.

Chargeable demand

Most of our large industrial and commercial customers are charged on the basis of the level of network capacity they require – this is referred to as their "chargeable demand". Chargeable demand is usually the highest of:

- the ninth highest daily withdrawal in the previous 12 months;
- ten times the maximum hourly quantity (MHQ); and
- the maximum daily quantity (MDQ).

To ensure that these customers pay for the network capacity they use, a customer's chargeable demand automatically goes up (ratchets) if they require additional capacity. However, the requirements to reduce chargeable demand are quite stringent and may not be responsive to a customer's lower capacity usage when their gas requirements reduce.

At our 30 November 2018 large user forum we heard that affordability is their number one concern. In responding to customer needs, we are including two initiatives for our 2020-2025 proposal:

1. automatically resetting chargeable demand from 1 July 2020 where this will result in a reduction in charges
2. simplifying the requirements for intra-period reductions in chargeable demand.

[35] The allocation of postcodes to tariff classes is provided at Schedule 2 of JGN's 2020 AA.

Automatic reset

We are proposing to automatically reset customers chargeable demand from 1 July 2020 where this would result in a reduction in the customer's network charges. In 2015, we provided customers with this opportunity and we consider there are benefits to provide this to customers again.

For the period from 1 July 2020, we reduce these customers' chargeable demand to the highest of:

- their ninth highest daily withdrawal from 1 July 2019 to 30 June 2020, or
- ten times their MHQ on 30 June 2020, or
- the MDQ on 30 June 2020.

Reducing these customer's chargeable demand in this way will assist to ensure that our tariffs reflect the costs these customers have on our network.

Simplifying the process to request a reset

The requirements in our 2015-2020 Reference Service Agreement for reducing chargeable demand are quite stringent and may be slow to reflect a customer's reduced capacity requirements, including when they have implemented technology, equipment or process changes.

We want to make sure that customers share the benefit from making changes to their business that reduces their demand on the network. To reflect this, we are proposing to relax the requirements in our 2020-2025 Reference Services Agreement by:

- simplifying the time conditions;
- removing the materiality threshold that the reduction in demand must be more than 10%; and
- amending the requirement for a "permanent change" to be a "significant change".

This will provide customers additional incentives to make changes to their business processes that result in reductions to their network charges and supports keeping gas affordable for our large business customers.

4.3.2 Throughput

There are six throughput tariff classes.

This tariff category sets a ceiling for cost of network transportation that allows the price of gas to remain competitive with alternate fuels. There is a throughput tariff class available for any eligible demand customer and five tariff classes for major end-users in specified Sydney postcodes.

4.3.3 Capacity first response

We will continue to offer our grandfathered capacity first response tariffs to customers currently on the tariff. Like our capacity tariffs these are based on postcode groupings. These are discounted tariffs that reflect the customer's willingness and capability to participate in network load shedding on a "first response" basis.

4.3.4 Large industrial and commercial customer tariff structure

Table 4–3 outlines the components relevant to each tariff class and sets out where we have banded these into blocks. We detail our fixed charge and block sizes for our demand customers in Schedule 2 *'Initial reference tariff schedule'* of our 2020 AA.

Table 4–3: Demand and VRT tariff classes—Type of fixed charge

Tariff classes	Fixed charge	Fixed charge - Provision of basic metering equipment charge[36]	Demand capacity (DC) rate[37]	Demand throughput rate	Ancillary charge
DC Country	×	✓	6 declining blocks	×	✓
DC1 to DC11	×	✓	6 declining blocks	×	✓
DT	×	✓	×	3 declining blocks	✓
DMT-1 to DMT-5	✓	✓	×	3 block structure	✓

4.4 Assignment criteria

We use our assignment criteria to group our customers into tariff classes.

Our tariff assignment criteria classifies customer delivery points based on three elements—tariff customer groups, tariff categories and classification by location.

Demand customers must have a reasonable MDQ specified per delivery point as they have a larger individual impact on the network than volume customers.

Consistent with our tariff class description above, we will continue to group volume and demand customers by 'country' and 'coastal' locations. Demand and VRT customers will also continue to be grouped by postcode. This enables locational variations to be reflected in tariff classes and promotes cost-reflectivity in our network tariffs.

We are only proposing two changes to our tariff assignment criteria to reflect:

- our policy to only offer volume boundary metering to high-rise sites with centralised hot water who obtain construction certificates before 1 July 2020 (refer to section 4 of the 2020 Plan)
- lowering the annual consumption threshold to qualify for our VRT tariffs from 50TJ to 25TJ (refer to section 4.2.3).

Our assignment criteria is detailed in Schedule 2 *'Initial reference tariff schedule'* of our 2020 AA.

4.5 Ancillary activities and charges

JGN's ancillary charges seek to recover the cost of user-initiated activities.

Our initial price levels of our ancillary activities we propose from 1 July 2020 are included in 'Schedule 2 *'Initial reference tariff schedule'* of our 2020 AA and outlined in Table 4–4.

[36] This can be single run or double run, depending on the meter type with charges based on delivery point maximum hourly quantity.

[37] Note that DC country is comprised of a capacity distance rate charge and pressure reduction rate charge.

Table 4–4: Ancillary charge price levels

Activity	Charge ($2020-21)
Hourly charge—non-standard retailer-initiated transactions	$153, plus $153 per hour after the first hour.
Disconnection & Reconnection – Volume Customer Delivery Points	Completed activity charge: $182 Wasted visit charge: $66 Charge applies per meter.
Expedited reconnection	Completed or attempted activity charge: $160
Abolishment	Completed activity charge: Meters with a capacity of less than or equal to 25m^3/hr: $1038 Above 25m^3/hr or off steel: Individually priced Charge applies per meter.
Special meter read	Completed activity charge: $11.30 per meter read Wasted visit charge: $11.30

(1) Where charges have been calculated under $20, we have rounded upwards to the nearest 10 cents, where it is more than $20 we have rounded up to the nearest dollar.

4.5.1 Why have our prices for ancillary activities changed?

Our price levels for ancillary activities did not change between 1 July 2015 and 1 July 2019 as a result of prices being set under enforceable undertakings agreed between JGN and the AER. The enforceable undertakings were required due to JGN's 2015 AA being set aside by the Australian Competition Tribunal (**Tribunal**). The Tribunal remitted decisions to the AER in February 2016 (market expansion capital expenditure) and July 2017 (cost of debt). The AER remade its decision on 28 February 2019.

There are two key elements that have applied upward pressure to our ancillary charges:

- As ancillary activities primarily consist of labour expenses, having no price change between 1 July 2015 and 1 July 2019 means the prices did not keep pace with the changes in labour costs. We have priced our ancillary charges from 1 July 2020 to fully reflect these labour costs changes.
- Our proposal to expense corporate overheads (see Attachment 6.1) has meant an increase in the overheads applied to ancillary activities.

However, we have also sought to apply downward pressure on these charges by:

- separating out wasted visits, which ensures this cost is recovered from those who cause them rather than included in the cost of a completed visit
- improving the methodology for identifying when to apply, as well as a more accurate view of, restoration costs—where we have to restore roads, footpaths and surrounding areas
- applying a new methodology for the cost build-up for special meter reads (see below).

The proposed ancillary charges are set to recover JGN's costs of providing the relevant activities to volume and demand customers and ensure other customers are not required to inefficiently cross-subsidise the costs of these user-initiated activities. They have been determined based on JGN's incremental costs.

In section 6.2 we set out how these prices might change over the 2020-25 period.

Special meter reads

JGN's special meter read price is built up by a combination of contractor cost, back office costs and overheads. There are two reasons why we consider a price reduction is warranted:

- We have achieved back office scale efficiencies, where despite a significant increase in volume of special meter reads we have not required a commensurate increase in the number of FTEs.
- We have seen an increase in the historical number of meter data logger (**MDL**) special meter read requests.[38] These are generally lower cost than a field special meter read as a site visit is often not required. Our weighted average cost for a special meter read has therefore fallen.[39]

While the impact of higher MDL special meter reads has been to reduce our average special meter read cost, this does not impact the cost of a wasted visit to the same degree. This is because MDL special meter reads are less likely to require JGN visit a site.

[38] This explains the majority of the difference between JGN's 2015-20 special meter read revenue and costs as reported in the 2020 AA regulatory information notice.

[39] Note that we currently consider the transactional costs of B2B changes for JGN, AEMO and retailers to have separate charges for MDL and field special meter reads to outweigh the benefit of additional cost reflectivity.

5. Allocation of revenue to services

Rule 93 details provisions relating to the allocation of total revenue and costs between reference and other services. To address the cost allocation requirements in Rule 93 of the NGR, JGN applies the following steps:

- First, JGN's cost allocation methodology (**CAM**), which is set out in Attachment 6.5, is followed to ensure that all costs attributable to the delivery of non-reference services and any unregulated services are excluded from the building blocks used to calculate JGN's total revenue requirement in accordance with rule 76.
- Second, as JGN only has a single reference service, the total revenue requirement is allocated to that single Reference Service in order to derive the reference tariffs discussed in this Attachment.

JGN's proposed reference service revenue and total pipeline services revenue is provided in Attachment 7.1.

6. How we set our network prices

We set our network prices by considering:

- the efficiency measures included in the NGR—section 6.1
- our pricing objectives and strategy—section 6.2
- the limits on annual price changes via our tariff variation mechanism—see section 7.

6.1 The efficiency measures

This section outlines how JGN's tariffs support allocative efficiency and reflect its different customer bases. It provides:

- demonstration of efficient prices including JGN's estimates of:
  - Stand-alone and avoidable costs
  - Long run marginal costs (**LRMC**)
- our consideration of transaction costs
- our consideration of customer's ability to respond to price signals
- our prudent discounts.

6.1.1 Stand-alone and avoidable costs

Rule 94(3) requires that the expected revenue recovered for each tariff class should lie on or between the stand-alone cost of providing the reference service and the avoidable cost of not providing the reference service.

JGN's stand-alone and avoidable cost estimates for each tariff class are contained in Table 6–1. This demonstrates that the expected revenue for each tariff class sits between the two efficiency measures. We cannot publicly disclose some values in the table due to the limited number of customers in the tariff class potentially revealing confidential customer information.

Table 6–1: Efficient bounds for expected revenues ($nominal, $000)

	Avoidable Cost	Revenue (2020-21)	Stand-alone cost
VI-Coastal	$109,068	$371,866	$1,476,400
VI-Country	$15,364	$35,651	$310,915
VB-Coastal	$183	$1,817	$267,871
VB-Country	$0	$0	$121,930
DC-1, DCFR-1, DMT-1	$323	$2,713	$272,255
DC-2, DMT-2	$497	$4,642	$282,119
DC-3, DMT-3, VRT-3, DMTFR-3	$817	$9,038	$287,669
DC-4, DMT-4, VRT-4	$234	$3,758	$275,546
DC-5, DMT-5	$40	[redacted]	$271,108
DC-6, DCFR-6, VRT-6	$447	$3,088	$242,535
DC-7	$143	$1,757	$243,665
DC-8	$23	$402	$242,204

	Avoidable Cost	Revenue (2020-21)	Stand-alone cost
DC-9	$148	[redacted]	$236,242
DC-10, VRT-10	$57	$501	$238,808
DC-11	$0	$0	$236,036
DC- Country	$317	$2,776	$284,066
DT	$27	$1,562	$122,048

(1) Costs are annualised stand-alone and avoidable costs.

(2) We have grouped demand and VRT tariff classes that fall within the same locational areas together. This is because these customers use the same network and costs are only avoidable if all the customers in those locations were not to be served. Similarly they would face the same stand alone cost were a network to be built to service just that location. We demonstrate that the combined revenue of these tariff classes falls between the avoidable cost and standalone cost of serving tariff classes in those locations. Note that while VRT tariff classes are included, there are currently no customers on the VRT tariffs.

Approach to calculating stand alone and avoidable costs

To estimate the stand-alone and avoidable cost for each tariff class, JGN has, where possible, linked each asset to one or more tariff classes. The linkage depends on an engineering assessment of whether that tariff class would require the asset in a stand-alone network that served only that tariff class.

JGN allocates each individual asset type to tariff classes in three steps:

- Identify asset classes for each tariff class.
- Where possible, map dedicated and shared assets to tariff classes.
- Where mapping has not proven possible, estimate the asset data (optimised kilometre of pipeline assets, optimised diameter of pipeline assets and number of optimised non-pipeline assets) by tariff class.[40]

Asset classes for each tariff class are determined based on an assessment of the physical use of the network. Customers in the lowest consumption tariff classes (i.e. the individually and boundary metered volume tariff classes) utilise almost all of the asset classes. By comparison, larger consumption or demand customers use fewer asset classes as they might generally only need to be connected to higher capacity components of the network, such as the trunk, primary and secondary mains and not to lower capacity assets such as medium and low pressure mains.

All asset classes (and the asset types associated with each asset class) fall into two broad categories:

- *Dedicated assets*—assets that serve only one particular end customer, such as demand and volume meters and services. Dedicated assets associated with each customer (and their associated tariff classes) are directly allocated to that tariff class
- *Shared assets*—assets that are utilised by more than one customer. The assets can be shared by customers within the same tariff class and also with customers in different tariff classes.

By establishing this split, JGN is also able to estimate the avoidable cost for each tariff class as the value of the dedicated assets established above.

Stand-alone costs

The stand-alone cost for each tariff class comprises both capital expenditure (**capex**) and operating expenditure (**opex**) as follows:

[40] The estimation process avoids the need to allocate dedicated and shared assets to tariff classes in recognition of the limited granularity of asset data. It also avoids the need to perform asset scaling (optimisation) as optimised data can be entered straight into the model.

- Capex costs include the costs of building a gas distribution network that only supplies customers within that tariff class to the required standard, availability and quantity. This hypothetical network would be smaller (i.e. dedicated) than JGN's existing shared network, and the annualised replacement cost of this hypothetical network, together with the annualised replacement cost of the dedicated assets, forms the capex component of the stand-alone cost.
- Opex costs include the annual costs of maintaining and operating the assets required to supply gas to customers within that tariff class. This includes targeted aspects of the shared network and the dedicated assets for the tariff class.
- For each tariff class, JGN calculates the stand-alone cost as follows in Box 6–1.

Box 6–1 Stand-alone cost calculation

SC = DA + SA + OA + NA

Where

- SC is the stand-alone cost
- DA is the annualised dedicated asset cost
- SA is the annualised shared asset costs
- OA is the annual operation and maintenance and other opex associated with the assets
- NA is the annualised non-system asset costs

Avoidable costs

The avoidable cost for each tariff class comprises both capex and opex as follows:

- Capex includes the replacement value of dedicated connection assets such as meters and services
- Opex includes the costs associated with operating and maintaining the dedicated connection assets.

For each tariff class, JGN calculates the avoidable cost as follows in Box 6–2.

Box 6-2 Avoidable cost calculation

AC = DA + OD

Where

- AC is the avoidable cost
- DA is the annualised dedicated asset cost
- OD is the annual operation and maintenance cost associated with dedicated assets

6.1.2 Long run marginal cost

In accordance with rule 94(4), JGN is required to calculate LRMC for each tariff and charging parameter (where there are two or more charging parameters).

Rule 94(4) requires the distribution network service provider to take into account LRMC in setting tariffs. LRMC is a measure of incremental cost calculated with the assumption that all inputs can feasibly be altered. This can therefore capture the cost of building additional capacity.

The purpose of taking LRMC into account when setting tariffs and tariff parameters reflects the economic principle that prices should reflect the underlying costs of providing the service. As consumption increases, network capacity requirements increase, and therefore augmentation is required to accommodate the additional demand. Prices should reflect the expected additional costs arising from additional consumption so that customers receive an efficient signal to base their gas consumption decisions on.

We have calculated LRMC for each of our volume tariff classes using the average incremental approach. These are shown in Table 6–2.

As was the case in the 2015 AA period, and as shown in Attachments 8.2 and 8.3, there is no growth in the demand market during the forecast horizon and it is not driving incremental growth-related investment on JGN's network. In addition, JGN does not yet have customers on the VB-Country or VRT tariffs. JGN has therefore only included LRMC values where there is existing and growing demand.

Table 6–2: LRMC for JGN proposed tariff classes ($nominal)

Proposed Tariff Class	LRMC ($/GJ)
VI-Coastal	$16.79
VI-Country	$11.73
VB-Coastal	$2.84

Table 6–3 details our estimated LRMC values for our tariff components in the volume market.

Table 6–3: LRMC for each tariff class by tariff component

	Tariff Component		
Tariff Class	Fixed $/annum[1]	Variable $/GJ chargeable demand	Variable $/GJ
VI-Coastal	$206.30	n/a	$8.54
VI-Country	$205.54	n/a	$6.54
VB-Coastal	$229.78	n/a	$2.61

(1) Note that the values are calculated per connection. That is, for the boundary metered tariff, $229.78 is the LRMC for supplying each boundary metered connection rather than the end-customer.

Approach to calculating LRMC

To ensure a robust approach to calculating LRMC, we considered both the Turvey approach and the average incremental cost (**AIC**). The Turvey approach aims to capture the direct change in expenditure resulting from multiple scenarios of changes in demand whereas the AIC approach captures the average change in expenditure. For this reason the AIC approach is more readily applied.

We have therefore used the AIC approach in order to estimate the LRMC for each tariff and each tariff parameter. In opting for an AIC approach, JGN has considered the approved approaches of other gas and electricity distributors for which an AIC approach is common.

The AIC approach examines a forecast demand profile and the portion of demand that is beyond the current supply capacity. A cost minimising quantity of capex and opex necessary to supply the incremental demand is then calculated. The present value (**PV**) of the total expenditure necessary to supply the incremental demand is then divided by the present value of the additional demand, to provide an estimate of the LRMC on a dollars per unit (of demand) basis. This formula can be expressed as:

> LRMC = PV(expected costs of the optimal network) / PV(additional demand supplied)

Where:

- *expected costs of the optimal network* is the forecast annual growth-related capex in shared network assets required to meet additional demand over the forecast period plus the forecast annual growth-related opex required to operate and maintain the shared network assets required to meet additional demand over the forecast period
- *additional demand supplied* is the change in gas demand (in gigajoules) over the forecast period.

Given growth in customer consumption drives expenditure on shared network assets, only forecast capex and opex relating to forecast growth of the shared network is included in the LRMC estimate. No forecast expenditure related to connection assets are included as these are dedicated to specific customers and driven purely by customer numbers and not consumption.

JGN adopted a forecast period of 13 years. This reduces the susceptibility of the model to long-range forecasts with associated reduced levels of reliability.

Steps for calculating LRMC for tariff classes and parameters

We calculated the LRMC for each tariff class using the same method as we used for our 2015 AA. This includes the following steps:

1. The annual customer numbers for the tariff class, as forecast by JGN, are used to determine the annual change in customer numbers for the tariff class.
2. The annual change in customer numbers for the tariff class are used to determine the annual change in demand by multiplying the annual change in customer number by the average peak demand (in gigajoule (**GJ**) per customer).
3. The PV of the annual change in demand for the tariff is determined using the annual change in demand and current and forecast Weighted Average Cost of Capital (**WACC**) values
4. Annual future growth capex is allocated to each tariff class and each asset class based on the engineering assessment allocations.
5. The PV of the annual future growth capex is determined using the annual future growth capex and a forecast WACC value.
6. The annual operational and maintenance (**O&M**) cost, including UAG, is estimated by determining the per-GJ O&M cost based on historical data and determine the incremental O&M cost each year based on the per-GJ O&M cost multiplied by the number of new customers and the annual GJ per customer.
7. An allocation of the UAG cost is also included in the estimated O&M cost based on the Average Energy Cost per GJ multiplied by the number of new customers, the annual GJ per customer and by our forecast UAG target rates.[41]
8. The PV of the annual O&M costs associated with the future growth capex for the tariff is determined using the annual O&M costs associated with the future growth capex and the forecast WACC value for the upcoming AA.
9. JGN calculates the AIC for the tariff class by dividing the PV of the growth related capex and opex by the PV of the annual change in capacity for the tariff.

JGN's charging parameters for the volume tariff classes include a 'dollar per annum', 'dollar per GJ' and 'dollar per GJ of chargeable demand'. For the purposes of calculating the LRMC for each charging parameter, JGN applied the following principles:

[41] Refer to Attachment 6.7 for derivation of the forecast UAG and target rates.

- The fixed charge component should recover the cost of dedicated assets and fixed operational costs (i.e. costs that do not vary depending on consumption or demand).
- The variable charge components should recover the cost of shared assets and variable operational costs (i.e. costs that in some way vary depending on consumption or demand).

To calculate its tariff parameter LRMC values, we followed similar steps to the tariff classes above but tailored these for each charging parameter.

Taking LRMC into account

Recognising both the benefits and limitations of LRMC, the rules require that we must take into account our LRMC estimates in setting our tariff levels (NGR, clause 94(4)(a)).

Our tariff levels have a primary function of recovering our costs as determined by the AER every five years. This is why tariff levels are unlikely to ever be equal to LRMC values. Our costs are made up of more than just expenditure to accommodate growth. It includes our funding costs on our previous investments, tax and reinforcement and renewal expenditure as well as fixed overhead costs. NGR 94(5) permits a distribution business to recover its building block cost of services.

Further factors applicable to the consideration of LRMC for gas network pricing, and which explain why LRMC estimates are not equivalent to JGN's tariff levels, are:

- At an aggregate network level, JGN's capacity requirements are not driven so much by load peaks as by volume market expansion (i.e. new customers).
- Given gas is a discretionary fuel for many customers, fixed charges are a barrier to gas connection as it must be paid in addition to the electricity fixed charge. To ensure natural gas remains competitive—recovering some costs via usage rather than fixed charges empowers customers to be able to control their bills and increases the attractiveness to new connecting customers.
- LRMC estimates are forward-looking and rely on assumptions made and the quality of input information.
- Seeking stability in end-retail prices—LRMC estimates can be volatile when re-made over time and customers have told us they prefer steady retail bills (see Attachment 2.2).

In addition, demand customers who have large loads and "non-basic" volume customers[42] are considered on an individual basis when they connect to JGN's network. Consistent with rule 79(2)(b), these considerations examine the incremental revenues from the customer relative to the incremental costs. Where the expected costs exceed the revenues, we charge a capital contribution to the connecting customer. The fact that these users pay a contribution for any capacity development costs not covered by our existing charges means the total they pay reflects the costs they impose.

6.1.3 Transaction costs

NGR 94(2)(b)(i) requires each tariff class to be constituted with regard to the need to avoid unnecessary transaction costs. It also requires that a tariff, and each charging parameter for a tariff class, be determined with regard to the transaction costs associated with the tariff or each charging parameter.

We have considered transaction costs such as metering and administrative costs when determining tariffs and tariff classes. This includes how to establish an appropriate balance of transaction costs that supports our pricing objectives noted in section 6.2 below.

[42] Non-basic refers to special site conditions as outlined on our website here: https://jemena.com.au/gas/home-and-business/get-connected

We consider that our proposed tariffs and tariff classes for the 2020 Plan provide the correct balance between minimising transaction costs and ensuring that customers have incentives to respond to pricing signals. This is because:

- Our proposal to retain a structure for charges based on customer size (volume versus demand) is economically efficient. By comparison, it would be inefficient to charge individually metered volume customers consuming less than 10TJ a year on capacity as that would require more sophisticated daily metering and data handling. Such metering costs are avoided by charging these customers on throughput using basic metering equipment.
- Postage stamping[43] tariffs for coastal and country areas avoids transaction costs for VI and VB customers. It would be considerably more costly to charge these customers based on zonal location for limited benefit in terms of network savings arising from any demand response. We consider the minor additional administrative burden to offer tariff classes for boundary metered customers remains justifiable to ensure greater cost reflectivity for these volume tariffs.
- We charge demand customers on capacity as they have the necessary metering equipment for daily reads. In addition, demand and VRT customers are charged based on location. This is because:
  - the size of the customers' usage and associated impact on the network warrant the additional costs of targeted price signalling (i.e. to manage capacity demands and network location decisions)
  - this addresses the bypass risk that we may otherwise face as it does not have an exclusive franchise area.
- Our single reference service supports low transaction costs by having single fixed charge component for each tariff class. Recognising our customer feedback of the challenges to understand bills, maintaining this simple approach supports customer understanding of our charges and improved participation in energy markets, as well as minimising the administrative costs and complexity of retail comparator websites.

6.1.4 Response to price signals

Rule 94(4)(b)(ii) requires that where a tariff consists of two or more charging parameters, each parameter for a tariff class must be determined having regard to whether the customers belonging to the relevant tariff class are able or likely to respond to price signals.

We consider that we have structured our tariffs and charging components to allow customers to respond to price signals. It is for this reason that we maintain the volume and demand customers' blocks discussed in section 4 and maintain a relatively low fixed charge to empower customers to control their bills.

Our declining block structure for both our volume and demand tariffs means customers face reduced costs for additional gas usage. We consider that this is an appropriate price signal for customers where the marginal costs of supplying additional units is materially lower than the average costs, encouraging increased network utilisation.

6.1.5 Prudent discounts

JGN has two prudent discount arrangements in place. Consistent with rule 96(2), the provision of these prudent discounts goes towards improving the efficiency of the network and leads to tariffs lower than they would have otherwise have been without the discounts. The discounted revenue from these users contributes to reference services revenue. Without this revenue, other sites would be subject to higher reference tariffs.

Table 6-4 details JGN's prudent discounts and demonstrates that the expected annual revenue is above the estimated avoidable cost were the customer to elect to bypass the JGN network or convert to another fuel source. We cannot publicly disclose the customers and value of discount in the table due to this revealing confidential customer information.

[43] 'Postage stamping' refers to the practice of applying the same price or set of prices within a specified location. Note that JGN still differentiates prices within the coastal or country areas depending on Customer or end customer characteristics.

Table 6-4: Prudent discounts

Name	Details	Justification	Negotiated revenue ($2020)	Estimate of avoidable cost
[redacted]				

6.2 Strategy overview

When we initially set our tariffs and price levels, and then when we update them each year, we seek to give effect to the efficiency measures identified in section 6.1 in the context of a broader pricing strategy. This broader strategy seeks to best meet our pricing objectives.

Our pricing objectives are:

- *provide simplicity and transparency*—ensure customers and stakeholders can understand our charges;
- *provide price stability*—where possible, minimise any sharp change in network bills and end-customer bills;
- *keep gas competitive compared to other fuel options*—maintain and enhance the attractiveness and position of natural gas as a value for money fuel of choice in NSW;
- *drive economic efficiency*—to promote efficient use of our network by ensuring customers pay prices that reflect the costs they impose on our network and that similar customers pay similar prices; and
- *recover efficient costs of operation*— that we have sufficient funding to provide a safe and reliable gas network service now and into the future.

We have previously tested these objectives with our customers and we consider they remain appropriate. These objectives reflect the requirements of the NGL—including the requirement that our 2020 Plan should 'promote the long-term interests of customers'. They reflect our understanding of what customers' want from their gas service, as well as our ability to deliver on these expectations in the long-term.

We outline some of our key strategic considerations when setting our prices across the 2020-25 period.

6.2.1 Volume and demand market revenue recovery

We have traditionally sought to recover around 10% of smoothed revenue from our large business (demand) customers and 90% of our revenue from our residential and commercial customers (volume) customers. Our

44 [redacted]

approach would broadly maintain this split over the five years of our 2020 Plan—recognising the declining nature of the demand market—but also create some small year-on-year variance from this traditional split to best meet customers' preferences.

A key difference in our customers preferences across these two markets is that residential customers indicated they prefer a network price path that results in smooth retail bills and demand customers prefer network revenues to be smooth (and therefore putting downward pressure on network bills as customer numbers increase).

In our Draft 2020 Plan, we outlined that we can balance the contrasting positions by a price path that:

- is targeted to deliver steady retail bills for volume market customers based on a forecast of movements in wholesale gas price, transmission and retail costs
- is within our side-constraint limit to provide large customers with more consistent network tariffs.

In response, the ECA stated that smoothing of network bills for average customers within the 10% side constraint aligns with its objectives[45] and also noted the precedent of having a 10% side-constraint.[46]

We have therefore proposed to retain our 10% side-constraint to retain flexibility to change one group of customers' prices by more than another set of customers in any year. This is shown in Box 7-1. Lower side constraint levels would limit our ability to deliver what our customers have asked for.

6.2.2 Volume customers' fixed charge

The fixed supply charge is an annual charge that applies to each delivery point. We consider it important to maintain a relatively low fixed charge as it reduces the barriers and improves the incentive for new customers to connect to gas. Additional customers increases network utilisation and enables our fixed costs to be spread wider and thinner, which is in all our customers' long-term interests. In this context, our fixed charge is not necessarily seeking to recover our fixed costs.[47] However, we do carefully consider how we price our usage charge blocks to ensure customers' bills reflect the costs they impose.

The fixed charge is priced to encourage utilisation but still signals to the customer:

- the fixed cost nature of natural gas distribution and metering
- the cost to connect customers to the network having regard to the size, location and type of network user.

6.2.3 Volume customers' usage charges

We currently have declining block usage charges. This means that the average network price we charge decreases with the more gas that is used, like 'bulk buying'. This reflects:

- that the costs of providing additional capacity decreases with volume increases (our pricing objective to provide pricing signals that reflect our costs)
- there are benefits in 'growing the market' and incentivising customers to use gas (our pricing objective to promote efficient utilisation of our network and lower our average prices).

Our strategy over 2015-20 has been to target our price reductions to block 2 to of our volume market, which is primarily where heating load occurs. We consider that continuing to target price reductions to this market, covering blocks 2 and 3 (refer Table 4–1) over 2020-25 would:

45 ECA, Response to JGN's Draft 2020 Plan, Attachment A, p. 4.

46 ECA, Response to JGN's Draft 2020 Plan, Attachment A, p. 7.

47 It is commonly thought that setting fixed charges equal to fixed costs promotes economic efficiency. This is true if customer numbers are fixed. However, growing the market lowers average fixed cost per customer, which also promotes economic efficiency.

- assist our marketing strategy to focus on 'upselling'—to encourage existing customers to choose additional gas appliances—which promotes efficient utilisation of our network and lowers our network tariffs over the medium term
- ensure gas, as a fuel of choice, remains competitive.

6.2.4 Increase competitiveness of boundary metered solutions

JGN's two boundary tariff classes are designed on the basis that similar customers should face similar tariffs (it is the same pipelines and other assets required to transport gas to supply energy to these end customers, whether they are individually or boundary metered). To provide equity in cost recovery, these boundary metered tariff classes should pay on average similar prices to individually metered volume customers.

Our boundary tariffs currently recognise that intermediaries, including ENPs, bring about some savings for JGN through reduced infrastructure requirements behind the boundary meter. This is primarily the operating and capital costs avoided due to the reduced demand for individual meters and the need for us to read those meters.

However, we are also increasingly mindful of the need to price boundary tariffs to incentivise developers and ENPs to choose gas. Encouraging these customers to continue choosing gas when making key capital investment decisions benefits all customers where the incremental revenue they provide exceeds the incremental costs of supplying them. How we price can also promote competition in ENP market and facilitate positive end-customer outcomes. For this reason, like our hot water market, we will seek to provide lower than average increases—or higher than average decreases—to the boundary tariffs.

6.2.5 Demand market

We are conscious of the ongoing cost pressure from wholesale prices borne by our demand customers and that 25 demand customers have had their connections abolished so far in the 2015-20 period. We recognise the contribution that having demand customers connected to gas provides to all our customers via maintaining utilisation levels and sharing our fixed costs. Our approach to demand customers across 2020-25 will therefore focus on ensuring these customers share in our proposed price decreases, that we best meet their price path preferences, and continue to contribute a fair share of our revenue requirements as noted above.

6.2.6 Ancillary activities

To ensure our ancillary charges continue to reflect the cost of undertaking these activities, we may adjust these year-on-year. We expect that these adjustments should reflect the level of inflation, unless the underlying costs materially change.

Any change would have to satisfy JGN's tariff variation mechanism (refer section 7) and be approved by the AER.

7. Tariff variation mechanism

Like most businesses operating in a competitive environment, we update our tariffs and charges each year. This enables us to respond to changing market conditions and recover our costs in a way that continues to be consistent with our long-term objectives.

We propose to retain the current method for varying reference tariffs over the 2020-25 AA period.[48]

We consider that these mechanisms are consistent with the revenue and pricing principles of the NGL and support the NGO by allowing tariffs to remain allocatively and dynamically efficient over the AA period.

7.1 Reference service

7.1.1 Form of price control

For our reference service, we propose to maintain a tariff basket annual tariff variation mechanism as permitted under rule 97(2)(b) in the form of a weighted average price cap (**WAPC**) formula for the 2020-25 AA period.

We will implement this WAPC using the CPI-X price control formula and annual tariff variation mechanism.

A WAPC constrains the overall movement in reference tariffs within the AA period. A WAPC means JGN, and not our customers, bears the risk where actual demand is different from the AER allowance. It provides us with incentives, consistent with the long-term interests of customers, to:

- respond to market developments and retain efficient price signals over each five-year regulatory period, consistent with rule 97(3)(a)
- increase volumes and network utilisation as it does not constrain the revenue that we might recover, supporting productive and allocative efficiency
- price according to the incidence of our costs and to help ensure that customers susceptible to bypassing the network are retained, again supporting allocative efficiency.

The tariff basket approach is consistent with customers' long-term interests by always balancing to the weighted average price.

The tariff-basket price control is the current form of price control for gas networks subject to full regulation[49], and is consistent with our current tariff variation arrangements. These are both relevant considerations for the AER when deciding the reference-tariff variation mechanism for the current regulatory period.[50]

The proposed WAPC formula is shown in Box 7-1.

[48] While the methodology is the same, there are some changes required to the description of the tariff basket and automatic adjustment factor to update for the years referenced and to unwind changes made as part of the AER's remittal decision of JGN's 2015 AA that were required to ensure appropriate wash-ups occurred in JGN's 2019-20 tariffs.

[49] Multinet, SP AusNet, AGN Vic, AGN Albury, AGN SA, and Evoenergy are all subject to a WAPC.

[50] Rule 97(3)(c) and 97(3)(d).

Box 7-1 Tariff control formulae and side constraint formulae

Tariff basket price control formula:

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

Subject to the rebalancing side constraint formula:

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

Where JGN 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, for financial year *t*:

i. the CPI for the December quarter immediately preceding the start of the relevant financial year; divided by

ii. the CPI for the December quarter immediately preceding the December quarter referred to in paragraph (i)

iii. minus one

provided that if the Australian Bureau of Statistics does not, or ceases to, calculate and publish the CPI, then in this access arrangement CPI will mean an inflation index or measure agreed between the 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 annual return on debt calculated for the relevant financial year

A_t is the automatic adjustment factor

PT_t is the cost pass through factor.

The right hand side of the equation determines the weighted average of notional revenues in the current AA year compared to the AA year in which the proposed tariffs are to apply. This notional revenue relies upon quantities from two years prior. This is consistent with practice in other jurisdictions. This remains consistent with rule 97(3)(b) because it reduces the administrative burden on the AER relative to the alternative of using estimated data for this purpose.

The left hand side of the equation provides the price cap that allows tariffs to increase by no more than the CPI less the X factor,[51] cost pass throughs and true-up amounts for licence fees, carbon costs, tax and UAG (the 'automatic adjustment'). These are included because:

- the X factor parameter gives effect to the price path set out in Chapter 7 of our 2020 Plan[52] and aligns the net PV of JGN's cost of service with its forecast revenues
- the CPI parameter adjusts JGN's reference services for inflation
- cost pass throughs are adjustments for a predetermined set of unforeseen events[53] outside of JGN's control where JGN's costs are higher or lower than threshold requirements[54] due to these events—these adjustments can be both positive and negative
- true-ups (automatic adjustments) are required for licence fees, carbon costs, tax and UAG to ensure that only the actual cost (or in the case of UAG, a cost that maintains our incentive to lower UAG) of these get passed on to consumers—these true-ups can be both positive and negative.

Individual reference tariffs will continue to be restricted by a side constraint formula also shown in Box 7-1. This restricts changes to revenues from individual tariffs to 10% over and above the price change permitted by the left-hand side of the tariff control formulae variations. This provides additional certainty to customers on annual price movements and allows us to best meet both residential and demand customer price path preferences as noted in Chapter 4 of our 2020 Plan.

The reference tariff mechanism has been designed to ensure that forecast revenues for the 2020 AA period equalise (in present value terms) to the portion of total revenue allocated to reference services for the 2020 AA period.

7.2 Automatic adjustments (A_t)

Our reference tariff mechanism includes automatic adjustment factors as detailed in Schedule 3 of our AA. The automatic adjustments ensure that only the actual costs incurred during the period for the following items, are passed on to consumers. The areas for automatic adjustment are the same as the 2015 AA, namely:

- *Licence fees*—due to realised licence fees varying from the allowed annual licence fee.
- *Unaccounted for gas* (UAG)—to procure gas to meet our UAG obligations as compared to our annual allowance. JGN's approach to assessing UAG costs is the same as the 2015-20 AA period, but with updated target rates (see Attachment 6.1);
- *Changes in taxes*—to meet any new or changed tax obligations over and above the annual allowance; and
- *Carbon costs*—to meet any costs incurred (directly or indirectly) arising from an obligation imposed under a new 'carbon scheme' should one be implemented in the 2020 AA period.[55] The factor is drafted broadly to reflect the significant degree of carbon policy uncertainty over the next 2020 AA period.

We propose retaining each of these components in the automatic adjustment factor for the 2020-25 period with the current zero materiality threshold. Each of these events addresses circumstances or potential circumstances over which we have essentially no control, it is appropriate to retain these actual or potential automatic adjustment factors in the tariff variation mechanism for the 2020-25 period. For the avoidance of doubt, adjustments (up or

51 Note that the X factor will be updated each year based on the implementation of the trailing average cost of debt.

52 Note that the X factor will be updated each year based on the implementation of the trailing average cost of debt.

53 Clause 3.4 of the AA details allowed pass through events. These are also discussed in appendix 4.2 'Cost pass through mechanisms'.

54 Clause 3.4 of the AA details threshold levels.

55 A 'carbon scheme' refers to any law or regulation with respect to the production or emission of, or to reduce, limit, cease, prevent, offset, remove or sequester greenhouse gas emissions.

down) are only made where JGN incurs costs that are different to any allowance provided by the AER.[56] The AER also has the opportunity to scrutinise these costs annually and they must approve them prior to them being include in JGN's prices.

The automatic adjustment is set out in Box 7-2. The proposed formula corresponds with that in the AER's 2015 AA final decision, and unwinds specific one-off changes required as part of the AER's 2015 AA remittal decision in February 2019 (see section 7.2.5).

We describe each of the four areas of automatic adjustment in further detail below.

7.2.1 Licence fee factor

We pay authorisation fees, licence fees and statutory charges to the AER, the Independent Pricing and Regulatory Tribunal (**IPART**), the Energy and Water Ombudsman NSW (**EWON**) and other relevant regulators, authorities and State and Commonwealth Government bodies. Our opex forecast includes an allowance for the costs we expect to incur for these matters for the 2020-25 period (see Attachment 6.1 for details). However, there remains risk that the actual amounts paid in a given year are more or less than that allowance.

The "Licence Fee Factor" is detailed in clause 2.1 of Schedule 3 of our AA, which relates to these authorisation fees, licence fees and statutory charges that are imposed on us. It adjusts for differences between our actual costs and those assumed in the AER's opex allowance in its Final Decision. This is because these costs are not stable from year to year and are difficult to forecast accurately. Additionally, invoices for these fees and charges are not levied on a regular basis, meaning that the fees and charges payable can fluctuate significantly from year to year.

We note that this is a two-way pass through and so it has been common for us to make refunds to customers in some years while in other years we have recovered additional costs. There is a two year lag in the application of the adjustment, given the differences in timing between when we know costs and when tariffs can be adjusted. This includes the true-ups timings as shown in Table 7–1.

We propose retaining this factor in the 2020-25 period, with one minor adjustment.

Currently, this factor is unclear on whether actual costs are those incurred in financial year t-2 or costs relating to t-2. This distinction is important as we do not always receive invoices for financial year t-2 by the time of undertaking a Tariff Variation. We therefore propose amending clause 2.1 of Schedule 3 to reflect costs incurred in the financial year, rather than costs related to that financial year. This is consistent with how the opex allowance is calculated, which uses a base year of as-incurred opex as the starting point for forecasting opex over the 2020-25 period.

Our proposed amendments to clause 2.1 of Schedule 3 of our AA are detailed below:

> *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 in Financial Year t-2 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*

[56] For example, we are not asking for an allowance from the AER for carbon costs. An automatic adjustment for carbon costs would only occur if a relevant scheme was introduced during the period. Were no scheme to be introduced, or an introduced scheme results in no cost to JGN, then there would be no adjustments made under the carbon cost factor.

related to the ownership or operation of the Network included in the AER's relevant final decision for Financial Year t-2.

7.2.2 UAG factor

We procure gas to replenish the difference between the measured quantities of gas entering and leaving our gas network – this difference is known as UAG. We buy gas for this purpose through a competitive tender process.

Our opex forecast includes an allowance for the costs we expect to incur for UAG for the 2020-25 period (see Attachment 6.1 for details). The efficient level of UAG is determined based on two market segments—one applies to daily metered customer withdrawals (referred to as the 'Demand Market') and the other to gas received to supply non-daily metered customers (referred to as the 'Volume Market').

The UAG factor is designed to provide JGN incentive to minimise the volume of UAG, but does not expose JGN to variations in the wholesale price of gas. It does this by trueing up between the AER Final Decision allowance and a calculated amount based on the product of the following three parameters for each market segment:

- Financial year t-2 consumption demand estimates for each segment
- Approved target rate (loss rate) of UAG—we have relied on loss rate forecasts prepared by Frontier Economics. We have provided Frontier Economic's independent expert report at Attachment 6.9 and Attachment 6.10 provides the target rate calculations, and
- Cost of replacement gas in financial year t-2.

The "UAG Factor" is detailed in clause 2.2 of Schedule 3 of our AA.

We are proposing only minimal changes to our arrangements for dealing with UAG from those that apply in the 2015-20 period—this includes both the basis for calculating the efficient UAG opex forecast and the UAG factor. The only updates (other than to reference the correct years) are to the proposed UAG target rates themselves and simplify how these are presented.[57]

Otherwise, we propose that the UAG factor be retained in its current form in the 2020-25 period. This includes the true-ups timings as shown in Table 7–1.

7.2.3 Carbon cost factor

The "Carbon Cost Factor" is detailed in clause 2.3 of Schedule 3 of our AA. This factor compensates us for the cost of operating a carbon scheme. Our AA includes the following definitions:

> ***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.*

Although there is not currently a Carbon Scheme in place, we propose that this automatic adjustment factor be retained, in the event that a government should in the future introduce a new carbon tax.

For avoidance of doubt, we are not asking for an allowance from the AER for carbon costs. An automatic adjustment for carbon costs would only occur if a relevant scheme was introduced during the period. Were no

[57] Given there is a target rate for each market segment, and to recognise that those rates differ between the 2015-20 period and the 2020-25 period we have included these in a table in Schedule 3 of the AA and simplified the amount of text.

scheme to be introduced, or an introduced scheme results in no cost to JGN, then there would be no adjustments made under the carbon cost factor.

7.2.4 Relevant tax factor

The "Relevant Tax Factor" is detailed in clause 2.4 of Schedule 3 of our AA.

This factor relates to any tax other than:

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

This factor remains relevant in the 2020-25 period, in the event that new or varied taxes or similar costs are levied during the period. Under this factor, customers would benefit from a lower corporate tax rate than that assumed in the AER's tax allowance if introduced during the 2020-25 period.

We therefore propose that it be retained. It would only apply if necessary.

7.2.5 Other changes to the automatic adjustment factor

Due to the 2015 AA remittal decision in February 2019, including a single year wash-up of all the automatic adjustments that did not occur due to the enforceable undertakings in place, there are corresponding changes required to the automatic adjustment to unwind this one-off adjustment. For the avoidance of doubt, these are only to update the years referenced to reflect the 2020 AA period, including to ensure only those years from the 2015 AA period not already trued-up are included. Table 7–1 outlines the years in which JGN incurs costs and when they are to be trued-up under the automatic adjustment factor described in Box 7-2.

Table 7–1: Administrative true-ups occurring in the 2020 AA period

Automatic adjustment factor	Year of true-up (year in table body)				
Year cost incurred (this row)	2018-19	2019-20	2020-21	2021-22	2022-23
Licence fee factor	***2021-22***	***2021-22***	***2022-23***	***2023-24***	***2024-25***
UAG factor	***2021-22***	***2021-22***	***2022-23***	***2023-24***	***2024-25***
Carbon cost factor	No recovery required	***2021-22***	***2022-23***	***2023-24***	***2024-25***
Relevant tax factor	No recovery required	***2021-22***	***2022-23***	***2023-24***	***2024-25***

(1) No administrative true-ups occur in 2020-21 as prices are set by the AER based on 2020-21 smoothed revenues, hence both 2018-19 and 2019-20 true-ups occur in 2021-22.

Box 7–2 Automatic adjustment factor

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

where

A_{t-1} is:

(a) zero when t-1 refers to financial year 2020-21; or

(b) value of A'_t determined in the financial year t-1 for all other years

and

$$A'_t = \frac{(L_{t-2}+U_{t-2}+C_{t-2}+T_{t-2})\left[(1+realWACC_t)^2(1+CPI_{t-1})\right]}{(1-X_t)\sum_{x=1}^{n}\sum_{y=1}^{m} p_{t-1}^{xy} q_{t-2}^{xy}}$$

where:

L_{t-2} is the licence fee factor amount, as defined in the AA, for Financial Year t-2

When t-2 is financial year 2019-20, L_{t-2} is L_{2019}*(1+*real* $WACC_{2019\text{-}20}$)*(1+$CPI_{2019\text{-}20}$) + L_{2020},

where:

L_{2019} is the licence fee factor amount, as defined in the AA, for Financial Year 2018-19

L_{2020} is the licence fee factor amount, as defined in the AA, for Financial Year 2019-20

U_{t-2} is the UAG factor amount, in accordance with the AA, for financial year t-2

When t-2 is financial year 2019-20, U_{t-2} is U_{2019}*(1+*real* $WACC_{2019\text{-}20}$)*(1+$CPI_{2019\text{-}20}$) + U_{2020},

where:

U_{2019} is the UAG fee factor amount, as defined in the AA, for Financial Year 2018-19

U_{2020} is the UAG fee factor amount, as defined in the AA, for Financial Year 2019-20

C_{t-2} is the carbon cost factor amount, in accordance with the AA, for financial Year t-2

when t-2 is the financial year 2019-20, C_{t-2} = 0

T_{t-2} is the change in tax factor amount for financial year *t-2*

When *t-2* is financial year 2019-20, T_{t-2} is T_{2019}*(1+*real* $WACC_{2019\text{-}20}$)*(1+$CPI_{2019\text{-}20}$) + T_{2020},

where:

T_{2019} is the UAG fee factor amount, as defined in the AA, for Financial Year 2018-19

T_{2020} is the UAG fee factor amount, as defined in the AA, for Financial Year 2019-20

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 JGN Revenue Model

realWACC$_{2019\text{-}20}$ has the value of *realWACC*$_t$ determined for Financial Year 2019-20.

$CPI_{2019\text{-}20}$	has the value of CPI_t determined for Financial Year 2019-20
CPI_t	has the same meaning as set out in Box 7-1.
$CPI_{t\text{-}1}$	is the value of CPI_t determined for the Financial Year t-1
X_t	has the same meaning as set out in Box 7-1.
p_{t-1}^{xy}	has the same meaning as set out in Box 7-1.
q_{t-2}^{xy}	has the same meaning as set out in Box 7-1.

The automatic factor is adjusted through the Tariff Control Mechanism to deal with the time value of money as shown in Box 7-1.

7.3 Cost pass through factor (Pt_t)

The proposed cost pass through factor set out in the tariff control formula provides the mathematical method by which any AER approved cost pass through is incorporated into the tariff basket. The pass through factor formula is in schedule 2 of the 2020 AA Plan is the same as for 2015-20, updated for the relevant years.

The cost pass throughs events we propose to include in the AA are discussed in Attachment 4.2 “Cost pass through mechanisms”.

7.4 Tariff variation process

Clause 3 of the 2020 AA proposal details the proposed reference tariff variation process. This is consistent with the process currently applying during the 2015 AA period.

In summary, for our annual process we will:

- submit our annual reference tariff variation proposal to the AER for approval by 15 March of each year prior to the relevant financial year in which the proposed tariffs are to apply
- include any update to the X factor for the return on debt adjustment previously approved by the AER
- include a pricing model that demonstrates compliance with the tariff variation mechanism

The AER will then review this proposal for compliance with the tariff variation mechanism and approve or reject the proposal consistent with the AA terms.

There may be very limited instances where we seek to vary its tariff outside of the annual process. This would be via an intra-year tariff variation process. In summary:

- We can propose to the AER to vary tariffs effective from a date other than the start of the financial year
- Our intra-year reference tariff proposal will be made 50 business days prior to the proposed date it would take effect and include the adjustments to apply for the remainder of the financial year
- We will include a pricing model that demonstrates compliance with the tariff variation mechanism

The AER will review this proposal for compliance with the intra-year tariff variation mechanism and approve or reject the proposal consistent with the AA terms.

Rule 97 sets out the requirements for the mechanics of a reference tariff variation. JGN considers that this tariff variation process complies with rule 97 as:

- the submission of a formulaic model minimises administrative burden on the AER by providing an objective and transparent means for the AER to exercise its oversight and powers of approval for reference tariff variation
- it aligns with equivalent processes in other jurisdictions.

7.4.1 Ancillary charges

The ancillary charges variation process will occur as part of JGN's annual reference tariff variation process. JGN will submit its annual tariff proposal to the AER including a pricing model that demonstrates how JGN proposes varying the ancillary charges.