Jemena Gas Networks (NSW) Ltd

2015-20 Access Arrangement Information

Appendix 1.8

Tariff Structures Statement

Public

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Jemena

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GLOSSARY

2015 Plan	JGN's 2015 access arrangement submission
AER	Australian Energy Regulator
GJ	Gigajoule
IPART	Independent Pricing and Regulatory Tribunal NSW
JGN	Jemena Gas Networks
LRMC	Long Run Marginal Cost
NECF	National Energy Customer Framework
NGO	National Gas Objective
RY	Regulatory Year
TSS	Tariff Structures Statement
TVN	Tariff Variation Notice

1. INTRODUCTION

Jemena Gas Networks (**JGN**) owns, operates and maintains the 25,000 kilometres of pipelines that distribute natural gas to over 1.2 million homes and businesses across NSW. We also read and maintain the meters that measure how much gas customers use each day. We charge retailers for the cost of providing these services, and retailers pass them on to customers in the end-prices they charge for gas.

Like most other energy distribution network businesses in Australia, our network tariffs are regulated by the Australian Energy Regulator (**AER or 'regulator'**).[1] The AER reviews our network tariffs to check that they comply with the requirements of the National Gas Law (**NGL**), including that they promote the "the long-term interests of customers".[2] It either approves our tariffs, or specifies the changes we must make. Once our tariffs are approved, our tariff schedule is published on our website.[3]

In developing our tariffs for the next regulatory period—1 July 2015 to 30 June 2020 (the **2015 period**)—we engaged with customers, stakeholders and the community to better understand what they want and value and to help us make decisions that reflect their priorities and long-term interests. They told us that they want to know more about how we set our tariffs, and how these tariffs may change over time.

In response to this feedback, we have prepared this tariff structures statement *(***TSS***)* to provide clear, accessible information on how we set our network tariffs, and how these may change in the future. The following sections:

- provide a simple explanation of network tariffs and other key concepts discussed in this TSS
- outline the approach we used to develop our network tariff schedule for the 2015 period, and will use to update the tariff schedule during the 2015 period
- discuss some of the key steps in this approach in more detail
- outline how our network tariffs are expected to change in 2015 and over the remainder of the period.

We invite our customers, stakeholders and the community to get involved in our customer engagement process. To have your say, you can:

- contact us at haveyoursay@jemena.com.au, or via the 'have your say' section on our website[4]
- subscribe to receive email updates about our pricing and other customer engagement activities.

To help you navigate this TSS, Table 1–1 provides short answers to some common questions about pricing and tariffs, and indicates where you can find more information.

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1 The AER is an independent Commonwealth Government agency that regulates the prices we charge, and the services we offer, in the long-term interests of customers.

2 The National Gas Law contains the National Gas Objective which is to 'promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.'

3 http://jemena.com.au/Assets/What-We-Do/Assets/Jemena-Gas-Network/Access-Arrangements/Tariff%20Schedule%201%20July%202013%20to%2030%20June%202014.pdf

4 http://jemena.com.au/Gas/Customer-Engagement-and-Price-Review/Have-your-say.aspx

Table 1–1: Navigating our TSS

Issue	Approach	Refer TSS section
What are network tariffs?	We provide an example to demonstrate the elements that make up your network tariffs	Section 2—our network tariffs
How do we go about creating a tariff schedule	We provide a high level overview of the process from establishing our costs to creating a tariff schedule	Section 3—how we set our tariff schedule
How are our costs established?	The regulator determines our costs following our consultation and our proposal to the regulator	Section 3—how we set our tariff schedule
What are our prices trying to achieve?	Our prices are the result of us balancing a number of set pricing objectives and principles	Section 4—our pricing objectives
What external factors must we consider?	We consider how we should respond to a changing NSW gas market	Section 5—managing market changes
How do we implement our pricing principles?	We carefully construct our tariff schedule in accordance with our pricing principles and objectives, and taking into account the changing market environment	Section 6—tariff classes Section 7—tariff structures and levels
How do we check our prices are appropriate?	We undertake robust economic analysis to assess the cost-reflectivity of our tariff classes and levels	Section 7— tariff structures and levels
How do we engage with customers, stakeholders and the community for annual price changes?	We consult on any changes to tariff structures or ancillary charges and ensure customers are informed of all tariff schedule changes	Section 8—updating our tariff classes, structures and levels
How do we adjust prices over time?	We have processes for setting an initial tariff schedule, seeking AER approval to varying the schedule and engaging with our customers on these variations	Section 8—updating our tariff classes, structures and levels
How do new prices take effect?	We publish our final tariff schedule with enough time for retailers to incorporate these costs into their bills	Section 9—how a new tariff schedule takes effect
How might prices change?	We have estimated how we see prices trending until 2020	Section 10—expected network tariff trends

2. MAKING SENSE OF OUR NETWORK TARIFFS

Like most businesses, we need to recover the costs of providing our distribution network services from the customers who use them. We do this by charging network tariffs, which are set so they recover the costs of transporting natural gas from transmission pipelines to customers' premises in a safe, reliable and responsive way. Customers may not see their network tariff itemised on their gas bill, as retailers incorporate our tariffs in their end prices and charges, along with the other costs of producing and supplying gas.

Figure 2–1 shows the range of costs included in your gas bill. As at 2015, our network tariffs make up around half of a typical residential customer's total gas bill. We expect this to decrease in the future as our network tariffs decrease and the other parts of the end-retail price (such as production costs) increase.

Figure 2–1: Costs included in your gas bill

2 — MAKING SENSE OF OUR NETWORK TARIFFS

2.1 CHARGES INCLUDED IN THE NETWORK TARIFF

The total network tariff incorporated into your gas bills may be made up of several separate charges:

- *a fixed charge*—an annual supply charge that applies to each premises gas is delivered to ($ per annum)
- *a variable charge*—a usage charge that applies to the volume of gas you use ($ per gigajoule (**GJ**))
- *ancillary charges*—fees for certain services or activities (such as special meter reads or disconnections) that apply only when you have requested or required those services ($ per service and/or per hour).

Most of our customers pay the fixed and variable charges, but the levels they pay vary to reflect their different characteristics and the different ways they use gas. Some of our customers may also pay an ancillary charge if they request those services.

All current charges are set out in our **tariff schedule**—which is like a price list—that is assessed by the AER as part of our 2015 access arrangement submission (**2015 Plan**) and then updated annually. We publish a new tariff schedule each year, which applies from 1 July to 30 June.

2.2 COMPONENTS THAT MAKE UP OUR TARIFF SCHEDULE

To make sense of our tariff schedule, you need to be familiar with a few additional concepts—including tariff classes, tariff structures, and tariff components and levels. The sections below provide a brief explanation of these concepts. Section 2.2.4 provides a simple example to illustrate how they fit together within our tariff schedule.

2.2.1 TARIFF CLASSES

We have over 1.2 million residential and business customers, with a range of different characteristics. We group customers that have similar characteristics together so that similar customers pay similar prices. These groupings are known as our 'tariff classes'. At the broadest level we differentiate between:

- residential / small commercial customers ('volume market')
- large industrial customers ('demand market').

2.2.2 TARIFF STRUCTURES

Once we've grouped our customers into tariff classes, we determine the price (or tariff) structure for each class (for example, fixed and variable charges, or capacity charges).

To encourage customers to continue using gas, we aim to charge for our services in a way that makes sense to customers. We don't update our tariff structures often, but when we do it reflects changes in the gas market or customer preferences.

2.2.3 TARIFF COMPONENTS AND LEVELS

The individual charges within tariff structure for each tariff class (for example, the fixed and variable charges, as discussed above) are known as the tariff components.

Once we have decided on the structure, we set the level of each component (for example, the number of dollars per annum or per GJ). Our overall objective is to set these levels so that our overall revenues recover our forecast efficient costs for the 2015 period. However, it is a complex process that involves considering a range of factors and meeting requirements set out in the National Gas Rules (**the Rules**).

2.2.4 SIMPLE EXAMPLE

To see how these concepts fit together, here is a simple example of a tariff schedule:

1. Household	2. Intermediary	3. Factory
$52 per annum	$1,550 per annum	$8,289 per annum
$25/GJ consumed	$22/GJ consumed	$550/GJ of maximum demand

Within this tariff schedule:

- there are three **tariff classes**—household, intermediary and factory—and customers are assigned to one of these tariff classes based on their characteristics
- the **tariff structures** for the household and intermediary tariff classes are the same—both comprise two **tariff components** (one fixed and one variable component)
- the variable components *within* the tariff structures differ—in the household and intermediary tariff class, customers are charged based on gigajoules (**GJ**) consumed, while in the factory class, customers are charged on their maximum consumption (or demand) on any single day of the year
- the **tariff levels** also differ by tariff class—for example, for the household class, the level of the fixed tariff component is $52 per annum while for the factory class it is $8,289 per annum.

Note that this is a simplified example for the purpose of illustration and are not actual tariff classes, structures, or levels.

3. HOW WE SET OUR TARIFF SCHEDULE

In general, the approach we use to set our tariff schedule involves three key stages:

- the first stage—**establishing our services and costs**—involves making broad decisions about the safety and service levels we will provide over the 2015 period, forecasting the efficient costs we will incur in doing so and the revenue we will need to recover
- the second stage—**establishing the timing of recovering these costs**—involves making decisions about how to time the recovery of our costs over the 2015 period
- the third stage—**setting our network tariffs to recover these costs**—involves making more detailed decisions, including establishing our tariff classes and deciding on the tariff structure and tariff levels for each of those classes.

We go through these stages thoroughly in developing our proposed tariff schedule for the first year of the 2015 period (that is, 2015-16).

However, we are able to make adjustments to the schedule in each of the remaining four years, by revisiting the third stage (including some necessary cost adjustments), subject to the AER's approval. In general, we are most likely to propose adjustments to the tariff levels, to reflect more up-to-date forecasts of our efficient costs including any material changes in costs beyond our control (say, carbon costs)[5].

We engage with customers, stakeholders and the community during these three stages—both in developing our initial tariff schedule and in proposing annual adjustments to our tariff schedule. This engagement helps to ensure that our decisions reflect customers' priorities and promote their long-term interests.

The sections below provide more information on the steps we take in these stages to develop our tariff schedule and our summarised in Figure 3–1.

3.1 ESTABLISHING OUR SERVICES AND COSTS

To establish our services and costs over the 2015 period we:

1. considered the safety and service levels we should provide over period (taking into account the legislation put in place by the NSW Government and our customers' expectations)
2. forecast the efficient level of costs required over this period and future periods to meet the safety and service levels and to run our business effectively to promote customers' long-term interests
3. engaged with our customers, stakeholders and the community to understand their preferences and concerns and to test whether our proposed safety and service levels and costs promote customers' long-term interests.

Further information on these steps and our customer engagement on the 2015 Plan are available on our website[6]

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[5] Refer section 8.

[6] http://jemena.com.au/Gas/Customer-Engagement-and-Price-Review/Reviewing-our-gas-network-prices.aspx

3.2 ESTABLISHING THE TIMING OF RECOVERING THESE COSTS

Once we have established our services and costs over the 2015 period, we need to decide on the amount to recover on an annual basis over the period. This is known as the 'price path' and sets out the timing of recovering our costs. The key steps are:

1. considering the pricing objectives we should meet
2. considering any emerging changes in the gas market we should respond to
3. developing a price path that meets those objectives and responds to those gas market changes
4. engaging with customers, stakeholders and the community on our proposed price path
5. finalising and seeking AER approval on the proposed price path (as part of our 2015 Plan).

Refer to Table 10–1 for our 2015-20 price path.

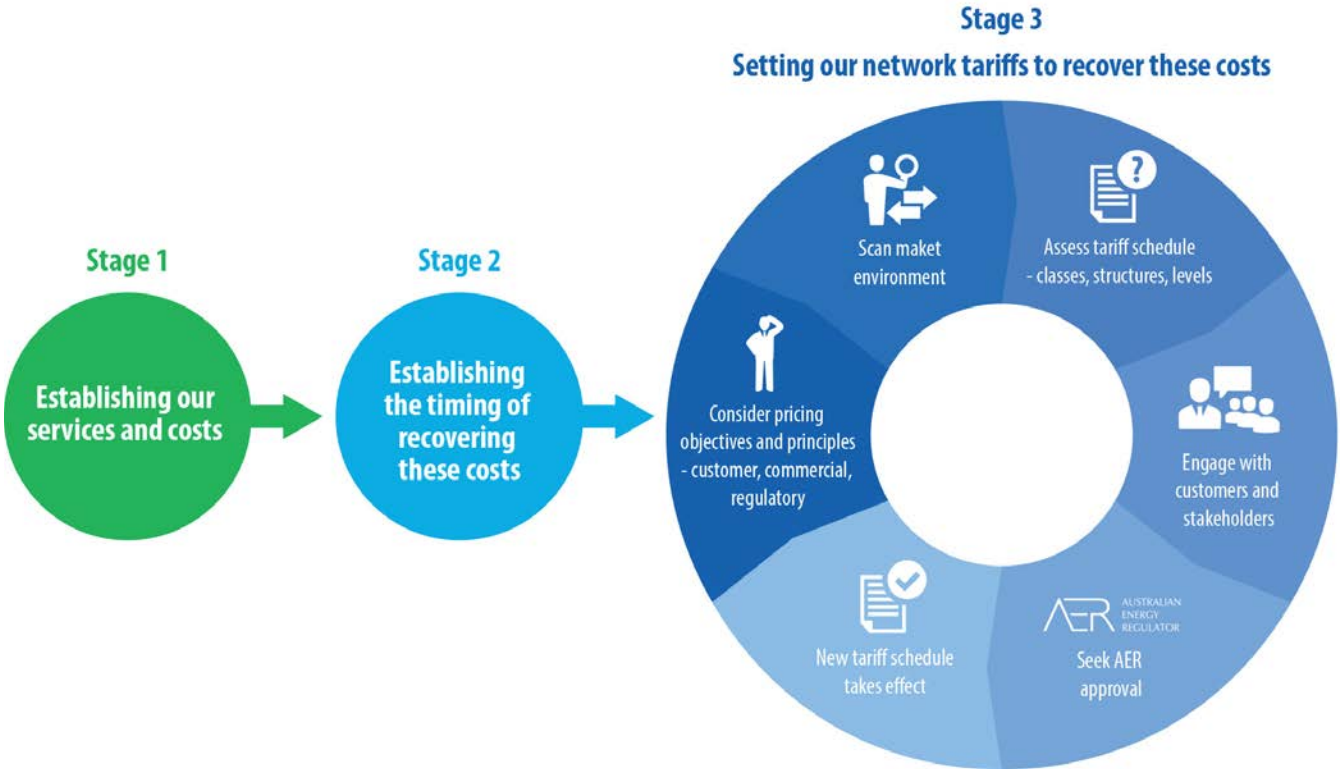
3.3 SETTING OUR NETWORK TARIFFS TO RECOVER THESE COSTS

Once we had made broad decisions on our safety and service levels, forecast costs, and our price path, we need to decide on how we set our network tariffs to recover these costs over 2015 period. This is a complex and iterative process. The key steps are:

1. considering the pricing objectives we should meet
2. considering any emerging changes in the gas market we should respond to
3. assessing our proposed tariff schedule that meets those objectives and responds to those gas market changes, including the tariff classes, and the tariff structure and tariff levels for each of these classes
4. engaging with customers, stakeholders and the community on our proposed tariff schedule
5. finalising and seeking AER approval on the proposed tariff schedule
6. implementing the approved tariff schedule.

We repeat these steps to update the tariff schedule during the period.

Figure 3–1: Process of creating and updating our tariff schedule



Source: Jemena

4. OUR PRICING OBJECTIVES

As section 3 discussed, the first issue we considered in deciding how we should recover our costs was the objectives we should aim to meet in setting network tariffs. These objectives reflect the requirements of the NGL—including the requirement that our 2015 Plan should 'promote the long-term interests of customers' (Box 4–1 explains our understanding of this requirement). Our objectives also reflect our understanding of our customers' values and preferences and our own commercial drivers.

In developing our tariff schedule, we aimed to meet the following pricing objectives:

- to recover our efficient costs of operation—we need to recover around $550M per year to continue to provide safe and reliable natural gas services into the future
- to 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
- to promote efficient use of our network and treat customers equitably—ensure customer groups pay prices that reflect the costs they impose on our network and ensure similar customers pay similar prices
- to provide stability in our network and in end-retail prices—where possible, minimise any sharp change in end-customer bills
- to provide simplicity and transparency—ensure customers and stakeholders can understand our charges.

Note that these are long-term objectives. In general, we only review and revise our pricing objectives periodically.

Also note that in some cases, these objectives conflict or compete with each other. Where this is the case, we aim to set tariffs in a way that appropriately balances the competing objectives.

The sections below explain each of these objectives in more detail, and highlight the engagement we have undertaken with our customers, stakeholders and the community in relation to these objectives. The final section in this section explains how we try to balance competing objectives.

Box 4-1: What do we mean by the long-term interests of customers?

To ensure our prices 'promote the long-term interests of customers', we considered what this means in practical terms. Essentially, we think it means we must strive to run our business as smartly and efficiently as possible, so:

- our prices reflect the lowest sustainable cost of providing our services and meeting the required safety and service levels (and are not higher than they need to be because of inefficient operations or poor investments). This is referred to as promoting 'allocative efficiency'.
- our services reflect what our customers want and are willing to pay for, and we price these services to encourage efficient use of our network (by encouraging new customers to connect to the network) to lower prices over time.
- we are responsive to innovation in gas usage and customer preferences and seek to ensure gas remains a competitive fuel option over the long term. This is referred to as promoting 'dynamic efficiency'.
- our combination of prices and service levels represent good value for money to encourage new customers to connect to the network and install more gas appliances. This is referred to as promoting 'productive and dynamic efficiency'.

4.1 WHAT ARE OUR PRICING OBJECTIVES?

4.1.1 RECOVERING OUR COSTS

Like most businesses, we need to recover our costs if we are to be a sustainable business. Our customers, regulator and shareholders expect this.

The AER intensively reviews our costs every five years and we are not able to recover unnecessary or inefficient costs. Some of these costs are updated annually, or potentially within-year, to reflect changes in costs that are difficult to forecast as part of our 2015 Plan, or costs beyond our control (say, carbon costs).

We need to ensure that our prices provide adequate revenue to recover our efficient costs. We need to recover our efficient costs so that we can continue to provide value for money gas services in the long-term interests of our customers. Legislation governing the NSW gas market recognises the importance of this objective.[7]

However, it is not straightforward to forecast the number of customers we are likely to have or the amount of gas they use, particularly as gas usage is influenced by weather and a range of other factors. This makes it challenging to determine the levels at which to set our tariffs to recover our costs. However, we consider it is practical for us to bear this risk rather than our customers.

Therefore, we will aim to:

- **set our tariffs to recover our efficient costs**—and in a manner consistent with our other pricing objectives.

4.1.2 KEEPING GAS COMPETITIVE

Most customers in NSW have a range of options to power their homes and businesses. This means natural gas is a discretionary fuel, so we need to be proactive in ensuring that it remains an attractive fuel option.

With over $3B worth of gas distribution assets in the ground, it is in our interests to ensure that our customers continue to see the benefits of natural gas as a safe, reliable and cost-effective source of energy. Rising network prices are not sustainable for our business, particularly if our costs represent half a typical residential gas bill. Customers will simply choose other fuels to operate appliances. New homes will not connect to our network.

We seek to lower the average price of gas by connecting new customers to our network to increase gas consumption (refer Box 5–2). Since our costs are mostly fixed[8] and we primarily charge based on gas consumption, the more gas that is consumed the lower our prices need to be. We also strive to improve the efficiency of our operations, to continue to be amongst the most efficient gas network businesses in Australia.[9]

Our customers told us they are concerned about future increases in wholesale gas costs and end-retail prices and that they support us attracting new customers to the network to lower our average costs and prices. Therefore, we will continue to use our tariff structures and tariff levels to maintain and enhance the competitiveness of gas. In particular, we will aim to:

7 National Gas Law, s 24.

8 Providing a safe, reliable and competitive gas service to NSW residential and business customers requires a significant network of assets, many of which are long lived assets. The cost of funding these assets ('cost of capital') is the single biggest driver of our costs, and it is not a cost we can avoid.

9 We commissioned a report to track our efficiency–Economic Insights, *Relative Opex Efficiency and Forecast Opex Productivity Growth of Jemena Gas Networks*, March 2014.

- **set our tariff structures and tariff levels to encourage usage—**our tariff structures will promote efficient use of our network, lowering our average network price
- **set our tariff structures and tariff levels to empower our customers—**our customers want control over their gas bills**,** so we will seek to recover our costs primarily through usage charges.

Box 5–2: We grow where it is economic to do so

Given the competitive environment in which we operate, we are proactive in growing the NSW natural gas market.

We seek to build awareness of natural gas through our marketing campaign. This includes media advertising, incentive payments for purchases of gas appliances and our website http://www.thenaturalchoice.com.au/. Our marketing campaign seeks to increase utilisation levels, which provides long-term benefits for our customers by spreading our fixed costs across more customers and thereby lowering average prices.

We extend our network to new suburbs and infill existing areas of the network and identify areas with changing use and dwelling density. We work proactively with builders and developers to facilitate timely natural gas connections and to influence appliance choices in new dwellings. We also actively market the benefits of natural gas as a clean, safe, reliable and cost-effective source of energy for heating, cooking and hot water.

However, this does not mean we grow the network for the sake of it.

Growing our network involves additional cost, so we only grow the network where the additional revenue obtained from the new customers exceeds the additional cost to extend the network to those customers. This ensures existing customers do not inefficiently subsidise the costs of connecting new customers. In other words, we only provide *economic* gas connections. This approach allows us to lower average network prices.

4.1.3 ECONOMIC EFFICIENCY AND EQUITY

We are required to create our tariff schedule in accordance with the rules. These rules have been constructed and are updated with reference to a single objective—the National Gas Objective (**NGO**).

Under the rules, our tariff classes and tariff components must meet specific efficiency requirements that are consistent with this objective (refer section 8). In general, they are designed to ensure that groups of customers—or tariff classes—don't pay more than they should[10] and pay for gas in a way that encourages efficient use of the network.[11]

They are also designed to ensure that customers are grouped together in a sensible way. For example, in a way that groups customers with similar characteristics, such as location, together. Our customers told us that similar customers should pay similar prices.

Therefore, we will aim to:

- **set our tariffs to ensure similar customers pay similar prices by grouping our customers together sensibly**
- **set our tariffs to signal the cost that different customers groups impose on the network.**

[10] Often known as the 'stand-alone cost' and 'avoidable cost' tests.

[11] The rules requires us to consider the long run marginal cost (**LRMC**) of supplying gas when setting our network tariffs. The LRMC is the incremental cost associated with supplying additional volumes of gas to customers.

4.1.4 PROVIDE STABILITY IN OUR NETWORK TARIFFS AND END RETAIL PRICES

Our network tariffs can make up a significant proportion of our customers' end-retail bills. Our customers told us that they value stability in our network tariffs, and we know that stable prices increase the attractiveness of gas to our existing and potential customers.

Our customers also told us that, where possible, they value us promoting stability in end-retail bills.

Our customers told us they are concerned about future increases in end-retail prices, and want us to consider the end-retail price when setting our prices.

We do not set retail gas prices, but our network tariffs influence the level of these prices. By looking at other parts of the supply chain (refer Figure 1–1), we can estimate the expected movement in retail prices and take this into consideration when setting our network tariffs.

Therefore, we will set our tariff levels to minimise network and end retail price shocks—we will use the levers available to us to provide stability in retail prices.

4.1.5 PROVIDE SIMPLICITY AND TRANSPARENCY

We understand that our network tariffs are complex. Our customers told us that the complexity of our tariffs can be a barrier to participation in the energy market. The complexity of our network tariffs can also be costly for us and stakeholders to administer.

We also understand that transparency in our tariffs is important to be able to engage our customers.

Our customers told us they would like to be able to make more sense of our tariffs. Therefore, we will:

- **simplify tariff structures and charges where appropriate—**gas pricing is complex, and we will consider what we can do to remove unnecessary complexity
- **continue to engage with our customers on pricing**—this TSS is designed to provide transparent information on our network tariffs.

4.2 HOW DO WE BALANCE ANY COMPETING PRICING OBJECTIVES

In some cases, these objectives conflict or compete with each other. Where this occurs, we aim to set tariffs in a way that balances the competing objectives in a transparent way that ultimately promotes the long-term interests of our customers.

For example, there are often trade-offs between:

- **recovering our costs and remaining competitive**—as the majority of our costs are fixed it may make sense to set a relatively high fixed charge. This would reduce the risks of not recovering our costs in years with lower gas usage as a result of a mild winter. However, this would not encourage new customers to connect to gas nor empower existing customers to manage their bills
- **cost-reflectivity and simplicity**—a purely cost-reflective approach would have separate tariffs levels for each customer based on the costs that customer creates, such as its usage pattern and location. However, such an approach could be confusing for customers and expensive to design and administer

- **price stability and economic efficiency**—the energy market is dynamic meaning the cost of supplying customers can vary over time. Updating our network tariffs to ensure they are purely cost-reflective might incorporate a degree of volatility inconsistent with the value customers place on price stability and certainty. Price shocks are likely to lead to us losing customers.

We note where we have encountered and balanced these trade-offs in sections 6 and 7.

5. RESPONDING TO MARKET CHANGES

The NSW gas market is changing. How we respond to these changes influences how successful we are in meeting our pricing objectives.

Some of the key factors influencing the market include changes to supply and demand conditions in the wholesale gas market, technology, weather, government policy and economic conditions. While many of these factors are beyond our control, it is important we consider and respond to them where possible to promote the interests of our customers and stakeholders.

The sections below provide more information on the emerging changes in the NSW natural gas market that we considered in setting our network tariffs.

5.1 CHANGES IN THE GAS MARKET

5.1.1 KEY WHOLESALE GAS MARKET CHANGES

In the Eastern Australian markets, producers are developing new conventional and coal seam gas fields and establishing Liquefied Natural Gas (**LNG**) export facilities. This will enable them to access the international market for natural gas, with its strong demand and higher prices. As these facilities come on stream, we expect the domestic wholesale price of gas to rise towards international levels. Our expert adviser, Core Energy estimates that these wholesale prices will double in real terms from 2014 to 2018[12]. We expect retail gas prices to increase over the 2015-20 period as a result.

Figure 5–1: Changes in the Eastern Australian wholesale gas markets

[12] See appendix 5.1 of our access arrangement information, available on Jemena's website.

Rising natural gas prices make gas a less competitive way to power homes and businesses in NSW. We are under increasing pressure to demonstrate to our customers that gas is an attractive, competitive and value for money fuel. To do this, we need to put downward pressure on prices and attract new customers.

5.1.2 TECHNOLOGICAL AND COMMERCIAL CHANGES

Improvements in appliance efficiency will also continue to put downward pressure on gas demand. While improved appliance efficiency increases the attractiveness of gas as a fuel for our existing and potential customers, increased efficiency of domestic appliances decreases average customer usage. This means less usage over which to spread our fixed costs.

Recent technological and commercial developments mean some residential and business customers may be supplied gas, hot water, and potentially electricity services through ‘energy intermediaries’, rather than receiving services direct from our network. Under these arrangements many of the core responsibilities for supplying these residential and business customers would rest with the intermediary, rather than with us. This is most likely in medium density and ‘high rise’ residential and commercial developments.

Intermediaries have indicated we could facilitate these technological and commercial changes through our regulated network tariffs.

5.1.3 POLICY AND REGULATORY CHANGES

The National Energy Customer Framework (**NECF**) introduces national regulation of energy retailers’ and distributors’ relationship with customers with the AER overseeing compliance and enforcement. Consistent regulation across eastern state jurisdictions will promote standardisation and competition in customer services.

These policy and regulatory changes may require changes to the services we offer and the way we charge customers for using our services.

5.2 OUR KEY RESPONSES TO THESE CHANGES

In response to the key gas market changes, we will:

- use our price path intelligently to limit the expected impact of wholesale gas prices on customers over the next 5 years (refer section 8)
- ensure our tariff structures and levels put downward pressure on network bills, particularly for key residential customers, to ensure gas remains a competitive way to power homes in NSW (refer section 7)
- continue to keep our fixed supply charges low and proactively market to customers the benefits of natural gas as a way to power homes in NSW to encourage customers to connect to gas[13]
- provide AER approved network tariffs for new classes of customers, including end-customers supplied gas, hot water, and potentially electricity services by ‘energy intermediaries’ (refer section 6) to encourage innovation in energy services.

[13] Refer our website http://www.thenaturalchoice.com.au/

- maintain price change stability for large customers to enhance predictability and promote business confidence (refer section 10)
- simplify our network tariffs and charges, including our disconnection charge to improve customer understanding and participation in energy markets

6. TARIFF CLASSES

In developing our proposed tariff schedule for the 2015 Plan, we aimed to meet the pricing objectives (discussed in section 4) and respond to the emerging market changes (discussed in section 5). We also ensured that our tariff schedule meets all the relevant rules.

This section explains the tariff classes included in our tariff schedule for the 2015 period, and how they reflect our pricing objectives. Box 6–1 sets out the rule relevant to tariff classes. The next section explains the tariff structures and levels.

Box 6–1: Rule 94 (2) of the National Gas Rules

A tariff class must be constituted with regard to:

a) the need to group customers for reference services together on an economically efficient basis; and

b) the need to avoid unnecessary transaction costs.

6.1 OVERVIEW OF TARIFF CLASSES

As we have over 1.2 million residential and business customers, with a range of different characteristics, we group customers that have similar characteristics together. This ensures that the number of individual tariffs we have is sensible and avoids the administrative costs and confusion of having different tariffs for each customer. It also ensures that similar customers pay similar prices so that we minimise any inefficient cross-subsidies between customers.

At a broad level, JGN distinguishes between two different customer groups:

- *residential and small business customers*—this is most of our 1.2 million customers
- *large industrial customers*—this is around 400 of our 1.2 million customers

However, to achieve our pricing objectives we further distinguish between customers in each of these groups based on other characteristics, including differences in the costs to serve them—for example, where they may be located or the type of end-customer. This allows us to set different tariffs for each of our tariff classes.

In the 2015 period, we will have a total of 28 tariff classes, including two grandfathered[14] classes. It is possible for us to offer greater or fewer tariff classes. However, we consider that this number of tariff classes strikes the right balance between efficiency, equity and simplicity.

[14] A grandfathered tariff class is one which we are maintaining only for any existing customers who were allocated to that class on the date it was closed to new or additional customers. We have grandfathered first response demand tariff classes that were open in the 2010-15 access arrangement period until at least 2020.

6.2 RESIDENTIAL AND SMALL BUSINESS CUSTOMERS TARIFF CLASSES

We call our residential and small business customers ‘volume customers’. We have eight volume customer tariff classes, as set out in Table 6–1.

Table 6–1: JGN’s proposed volume reference tariff classes

Tariff category	Number of tariff classes	Tariff classes	Types of end-customers[15]	Why included
Volume individual metered	2	VI-Coastal VI-Country (previously V-Coastal and V-Country)	Most of our 1.2 million existing customers and new customers, including residential and small - medium businesses, with individual metering consuming up to 10 TJ per annum	Maintains exiting tariff classes for most of JGN’s existing and new customers.
Volume boundary metered (new)	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 that sits between the boundary meters and the end customers.	Increasing demand for boundary metered supply to higher density developments where energy intermediaries then on-sell energy to residential or business end customers. We want to encourage innovative, efficient and customer focused energy services.
Residential distributed generation technology (new)	4	VRT-03, VRT-04, VRT-06, VRT-10	Residential end customers supplied energy by an intermediary using a large-scale generation unit in a residential precinct (consuming more than 50 TJ per annum)	Recent technological, market and policy developments mean residential customers in large precincts may be supplied electricity, heating or cooling from a gas-fired plant (cogeneration or tri-generation). We want to encourage innovative, efficient and customer focused energy services, and promote gas usage to lower average prices for all customers.

6.2.1 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.

[15] End-customers are those that consume the energy, rather than an intermediary who on-sells energy to end-customers.

There are different costs involved in serving our coastal and country customers. We group our volume customers by 'country' and 'coastal' locations to reflect the relative costs of supplying these customers.

6.2.2 INDIVIDUAL, BOUNDARY-METERED AND DISTRIBUTED GENERATION TECHNOLOGY TARIFF CLASSES

As a gas network service provider, we have been responsible for providing a safe and reliable supply of gas through our network to most of our 1.2 million end-customers—including by maintaining the network, connecting new customers to our network and responding to supply interruptions—and for providing metering services and customer inquiry services to individual households and businesses.

However to respond to the changes occurring in the gas market in a way that promotes our customers' long-term interests, we provide regulated or reference services[16] to end residential and business customers that are:

- directly supplied gas by our network, and receive individual metering services from us (most our existing customers)[17]
- supplied gas, hot water, and potentially electricity services through 'energy intermediaries', rather than taking gas direct from our network, and may receive individual metering services from the intermediary (an increasing number of our new customers in high density developments)[18]

Examples of intermediaries, who will fall into one of the six new tariff classes include:

- a strata body corporate (or building owner) buying gas for a centralised gas hot water boiler in a residential building, or buying gas to supply to the residents of the building will be VB
- an energy supplier that specialises in owning and operating gas boilers for residential centralised gas hot supply to end customers in residential buildings will be VB
- an operator of a large-scale gas-fired cogeneration energy system supplying electricity and thermal energy to principally residential buildings or precincts that use more than 50 TJ of gas per annum will be VRT. Operators of smaller-scale systems consuming less than 50 TJ per annum will be VB.[19]

We want to facilitate the technological and commercial changes occurring in the market given the potential benefits to our customers from innovation in energy services. To accommodate these changes we provide six regulated network tariffs for gas supply to energy intermediaries that on-sell this gas, hot water or electricity to end-customers: the VB-Coastal, VB-Country, VRT-03, VRT-04, VRT-06 and VRT-10[20]. These regulated tariffs should provide certainty and stability to intermediaries in terms of the network costs they are likely to face, and should assist in facilitating these market changes. However we consider that regulatory and policy changes may be required to protect the 'customer experience', for example, by offering end-customers the choice of individual

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16 Reference tariffs approved by the AER

17 These end-customers are known as 'individually metered' end-customers

18 These end-customers receive energy services from an intermediary and are known as 'boundary metered' end-customers (given they may not be individually metered by us), or cogeneration end-customers. Under these arrangements many of the core responsibilities for supplying these residential and business end-customers would rest with the intermediary, rather than with us. This is most likely in medium density and 'high rise' residential and commercial developments.

19 An example of an intermediary who will not fall into one of the six new tariff classes is a gas-fired cogeneration owner and operator supplying electricity and thermal energy to principally commercial buildings or precincts. These customers will be assigned to a VI tariff class if less than 10 TJ and into DC or other demand tariff class if greater than 10 TJ.

20 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.

metering and billing to allow them to manage their energy bills, choose their energy retailer and access a range of customer protections.[21]

Our individually metered residential and small business customers (most of our 1.2 million existing customers, customers) and end-customers supplied by an energy intermediary are expected to use less than 10 TJ of gas each annum.[22]

The intermediary using our gas to power a cogeneration or tri-generation unit to on-sell energy to residential customers must use more than 50 TJ (i.e. large-scale generation).

6.3 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 10 TJ of gas each annum.

We have 18 open demand customer tariff classes, as set out in Table 6–2. We also have an additional two ‘first response’ tariff classes that we have grandfathered to at least 2020.

Table 6–2: JGN demand customer tariff classes

Tariff category	Number of tariff classes	Tariff class names	Types of customers	Why included
Capacity country	1	DC Country	Most of our large industrial customers	Maintains existing tariff classes
Capacity coastal	11	DC1 to DC11		
Throughput	1	DT		
Major end-user (throughput)	5	DMT1 to DMT 5		
First response	2	DCFR-06 & DMTFR-03	Several large industrial customers with flexibility in operations to reduce demand as a first priority response	Grandfathered tariff classes to continue to provide benefits to the market, and to the eligible customers

We continue to seek opportunities to simplify our tariff offerings and reduce unnecessary financial risks. We have therefore closed our previously offered first response tariff classes to new customers following minimal uptake.[23]

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21 If a customer in a higher density development is supplied gas and/or hot water from an intermediary, issues relating to reliability of gas supply, cost effectiveness of any centralised hot water, individual billing of gas and hot water, as well as access to the competitive retail gas market and customer protection would be matters that individual energy consumers would need to engage on with the intermediary. The policy and regulatory framework (such as ‘exempt seller’ obligations) covers some of these issues relating to gas supply, although this will depend on the specifics of the arrangement.

22 An average residential customer consumes around 0.02 TJ (or 20 GJ) per year. An individually metered site greater than 10 TJ would fit in our demand tariff classes (refer section 7.1.2).

23 Uptake was primarily from customers with intermittent operations. Prior to closing the first response tariff classes, we approached our large customers to ensure they are aware of the tariff. We are satisfied that we have extracted all customers for whom the tariff would be attractive.

6.3.1 CAPACITY COUNTRY AND COASTAL

There are 12 capacity tariff classes—one for country customers and 11 for coastal customers based on postcode groupings.[24]

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.

6.3.2 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.

6.3.3 CAPACITY FIRST RESPONSE

We base our grandfathered capacity first response tariff classes on postcode groupings. This is a discounted tariff for demand customers who were willing and capable to participate in network load shedding on a "first response" basis and who sought this tariff when it was open.

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[24] The allocation of postcodes to tariff classes can be found in JGN's NSW Gas Network Schedule of reference tariffs and charges effective 1 July 2014. This is available on JGN's website here: http://jemena.com.au/what-we-do/assets/jemena-gas-network/access-arrangement.aspx

7. TARIFF STRUCTURES AND TARIFF LEVELS

All of the 26 tariff classes discussed in section 6 have a specific tariff structure that reflects our pricing objectives. This structure comprises a number of components, including fixed supply charges, variable usage charges and ancillary charges. The sections below outline the structure of each tariff class.

7.1 INDIVIDUAL AND BOUNDARY METERED VOLUME CUSTOMER TARIFF CLASSES

The tariff structure for our individually and boundary metered volume customers comprise of the following components:

- a fixed supply charge (in dollars per annum)
- banded usage charges – or 'blocks' (in dollars per GJ)
- ancillary activity charges (a charge per service as described in section 7.4).

7.1.1 FIXED SUPPLY CHARGE

The fixed supply charge is an annual charge that applies to each delivery point. In response to customer feedback about the complexity of energy pricing, from 1 July 2015 we will merge our three separate fixed charges[25] into one low fixed charge for individually and boundary metered tariff classes[26].

The new single fixed supply charge will continue to be an annual charge that applies to each delivery point. This supports customers' long-term interests by giving them charging structures they can more readily understand when comparing retail market offers.

Additionally, we think minimising our fixed network charges makes sense, as do our customers —it reduces the barriers for customers connecting to gas—especially as only around 73% of dwellings in the Sydney Basin with natural gas available are connected to our network. This improves the incentive for new customers to connect, with the additional customers increasing network utilisation and enabling our fixed charges to be spread wider and thinner, which is in our customers' long-term interests.

In this context, our fixed charge is not necessarily seeking to recover our fixed costs.[27] We have carefully considered the blocks in our usage charge to ensure the prices each of our customers face appropriately reflect the costs they impose. This is an example of how we balance between the principles considered in section 5.

We set our single fixed charge to encourage utilisation, but still signal to the customer:

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

[25] 2010-15 fixed charges include a provision of basic metering charge, a meter reading charge, and a standing charge.

[26] VI-coastal, VI-country, VB-coastal, and VB-country. Note there will also be a single fixed for volume residential distributed generation technology (VRT) tariff classes to align with relevant demand tariff classes as outlined in the section 8.2.

[27] 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.

Table 7–1 provides our fixed charges for volume customers.

Table 7–1: Volume tariff classes fixed charges

Tariff class	Fixed charge ($/annum excluding GST) period ending 30 Jun 16
VI-Coastal	51.676
VI-Country	51.676
VB-Coastal	1550.283
VB-Country	1550.283

7.1.2 BANDED USAGE CHARGES

The banded usage charges comprise of six blocks for each of the tariff classes. There are lower prices for gas consumed in higher blocks. In other words, 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 principle to provide pricing signals that reflect our costs)
- there are benefits in 'growing the market' and incentivising customers to use gas (our pricing principle to promote efficient utilisation of our network and lower our average prices).

From 1 July 2015 we have a modified block structure to better reflect the consumption for residential and small business customers over the period (refer Table 7–2) and to promote our pricing principles (price signals that reflect costs and encourage the most efficient utilisation levels).

The modification to the blocks also allows us to target reductions in our required revenue to block 2 to:

- support our key residential markets to ensure gas, as a fuel of choice, remains competitive with electricity
- promote efficient utilisation of our network by this customer segment.

Table 7–2: Block sizes mapped to typical usage driver, with tariff levels – individually metered

Block	Size (GJ p.a.)	Typical usage driver	VI - coastal tariff ($/GJ excluding GST) period ending 30 Jun 16	VI-country tariff ($/GJ excluding GST) period ending 30 Jun 16
1	0 – 7.56	Residential cooking	24.588	24.098
2	7.56 – 15	Residential hot water or heating	21.151	20.661
3	15 – 33	Residential hot water and heating	9.580	9.270
4	33 – 1002	Heating and small commercial load	9.569	9.260
5	1002 – 5004	Small commercial load	8.493	8.174
6	Above 5004	Light industrial	4.991	4.761

We provide estimates of how these might change up to 2020 in our expected network tariff trends (refer section 10).

We need to provide different block sizes for boundary metered (refer Table 7–3) because of the number of end-customers ‘behind’ the customer and to ensure similar customers face similar prices (refer section 7.1.1.2).

Table 7–3: Block sizes and tariff levels for volume boundary coastal and country customers

Block	Size (GJ p.a.)	VB - coastal tariff ($/GJ excluding GST) period ending 30 Jun 16	VB-country tariff ($/GJ excluding GST) period ending 30 Jun 16
1	0 – 250	22.129	21.688
2	250 – 500	19.035	18.594
3	500– 1000	8.622	8.343
4	Above 1000	8.612	8.334

In designing our new boundary metered tariff classes, we have considered our pricing principle that similar customers should face similar tariffs, and that these tariffs should signal the cost that this customer group imposes on the network. In particular we have taken account of:

- the fact that these customers may require less capital and operating expenditure ‘behind’ the boundary meter— this is primarily the operating and capital savings resulting from reduced demand for individual meters and the need for us to read those meters.
- the need to build and maintain the same network infrastructure up to the boundary meter to supply the same end-customers, and the need for cost recovery equity between those end-customers and other end-customers on our network (minimising inefficient cross-subsidies between customers).

We provide estimates of how these might change up to 2020 in our expected network tariff trends (refer section 10).

7.2 RESIDENTIAL DISTRIBUTED GENERATION TECHNOLOGY VOLUME CUSTOMER TARIFF CLASSES

The tariff structures for our residential distributed generation technology volume customer tariff classes (VRT) comprise the following components:

- a fixed supply charge (in dollars per annum)
- banded usage charges – or capacity ‘blocks’ (in dollars per gigajoule of CD per annum)
- ancillary activity charges (a charge per service as described in section 7.4).

The fixed charge is a single ‘dollars per annum charge’ and the usage rate is a ‘dollars per GJ of chargeable demand charge’. ‘Chargeable demand’ is set by a ‘maximum daily quantity’ or ‘maximum hourly quantity’ for each delivery point.

The specific tariff levels are set out in our reference tariff schedule.

In designing our new residential distributed generation technology tariff classes, we have looked to incentivise efficient and innovative new technologies, by providing discounts[28] relative to the other volume market tariffs. This reflects:

- that innovative energy technologies, with more efficient usage profiles, involve lower average costs (our pricing principle to provide pricing signals that reflect our costs)
- there are benefits in 'growing the market' and incentivising customers to use gas (our pricing principle to promote efficient utilisation of our network and lower our average prices to support efficient long-term gas usage i.e. dynamic efficiency)

Table 7–4 outlines the components relevant to each tariff class.

Table 7–4: VRT tariff classes - Type of charges

Tariff classes	Fixed charge	Fixed charge - Provision of basic metering equipment charge	Demand capacity rate	Demand throughput rate	Ancillary charge (refer 8.4)
VRT-03, VRT-04, VRT-06, VRT-10	×	✓	6 declining blocks	×	✓

7.3 DEMAND CUSTOMER TARIFF CLASSES

Our network tariffs for our large industrial and commercial customers in the demand customer group reflect the costs associated with transporting gas to the customers in each of our demand tariff classes. However, we vary the tariff structures within each of these classes, (that is, they consist of different tariff components) to reflect the customer's consumption and demand profile and the type of price signal that we intend to send to those customers.

Tariff structures for each demand tariff class include one or more of the following components:

- banded usage charges or capacity 'blocks' (in dollars per gigajoule of CD per annum)
- a demand throughput rate (in dollars per gigajoule)
- provision of basic metering equipment charge (in dollars per annum)
- a fixed supply charge (in dollars per annum)
- ancillary activity charges (a charge per service as described in section 7.4).

Table 7–5 outlines the components relevant to each tariff class and sets out where we have banded these into blocks. Our tariff schedule details our demand class fixed charges and block sizes.

28 These discounts are included in our tariff schedule.

Table 7–5: Demand and VRT tariff classes - Type of fixed charge

Tariff classes	Fixed charge	Fixed charge - Provision of basic metering equipment charge[29]	Demand capacity rate[30]	Demand throughput rate	Ancillary charge (refer 8.4)
DC Country	×	✓	6 declining blocks	×	✓
DC1 to DC11	×	✓	6 declining blocks	×	✓
DT	×	✓	×	3 declining blocks	✓
DMT-1 to DMT-5	✓	✓	×	×	✓

7.3.1 MODIFICATIONS WE HAVE APPLIED

In designing the tariff structures and the associated tariff levels for the demand tariff classes, we have looked to:

- simplify our tariffs by reducing the number of fixed charges to reduce complexity and improve customer understanding of our charges
- add a new demand capacity block to ensure similar customers pay similar prices, and minimise any perverse pricing incentives.

7.3.1.1 Simplifying our tariffs

As with the volume tariff classes, we have reduced the number of fixed charges from 1 July 2015. For the demand classes we have done this by incorporating the previously separate specific meter reading fixed charge and the on-site data and communication equipment charge into a single charge–the provision of basic metering equipment charge. We will also seek to minimise our fixed network charges for demand customers to reduce the barriers for customers connecting to gas.

7.3.1.1 Ensuring similar customers pay similar prices

Our previous tariff structures resulted in customers that consume slightly over 10 TJ paying less than customers that consume under 10 TJ.

This is because our historical tariff structures put in place in 2005 inadvertently established a perverse pricing incentive whereby some customers who increased their gas usage moved from the volume customer group (under 10 TJ) to the demand customer group (over 10 TJ) experienced a significant price reduction despite the increase in their capacity requirements. This contradicts our pricing principle that similar customers should pay similar prices. Instead, we want to ensure we have a smooth transition in price between the volume and demand tariff classes.

To address this incentive, we are modifying our demand capacity block structure by adding a new block. This allows us to equalise the effective prices similar customers face. It ensures that customers shifting from the volume to the demand tariff class continue to face prices that reflect the costs these customers impose on our

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

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

network (refer section 10). As always, we will do this over the longer term to provide price stability to our customers.

7.4 ANCILLARY CHARGES

The tariff structure for each tariff class (demand and volume customer groups) includes user-requested ancillary charges as shown in Table 7–6. The levels for these charges are common across all tariff classes. We set these at levels to reflect the costs we incur as a result of responding to the customer or retailer's request for the ancillary activity (such as a special meter read, or disconnection) and to ensure that other customers who do not request these activities are not inefficiently cross subsidising these charges.

From 1 July 2015 we have made a single change to our ancillary activities. This is to remove the temporary disconnection charge we previously offered for customers under one TJ per annum to simplify our disconnection activities and comply with the national energy customer framework (**NECF**) legislative requirements implemented in NSW in 2013.

Table 7–6: JGN ancillary activities and charges from 1 July 15

Requested ancillary activity	Description	Charge ($2015-16 excluding GST)
Hourly charge—non-standard retailer-initiated transactions	For time spent assessing requirements, collating information and responding to a request in relation to queries and non-standard requests over and above standardised procedure requirements. As examples, this includes: • large customer connection or upgrade inquiries requiring special investigation or unreasonable repetition • requests for measurement data in addition to that provided through regular standardised reporting. This charge is not applicable to processing of basic and standard connections and alterations under the national energy customer framework.	100.00
Temporary disconnection—large customers	This covers the temporary disconnection of supply to a single delivery point for a large customer responding to a request for a temporary isolation of supply.	150.00
Disconnection	This covers disconnection of supply to a single delivery point responding where the request is that the meter is not to be moved or removed.	150.00
Decommissioning and meter removal	This covers permanent decommissioning of a network connection including disconnecting and removing the gas meter from the site, as well as disconnecting the service from the main.	1050.00 small 2188.00 large
Special meter read	For requested meter reads requested rather than ordinary reads (for instance when the meter reader makes a special visit to read a particular meter out of the usual meter reading route or schedule). A minimum 5 day notice period is required.	14.80

7.5 TESTING THE EFFICIENCY OF OUR TARIFF LEVELS

We have prepared this TSS to provide clear, accessible information on how we set our network tariffs and how we have arrived at specific tariff levels. This section provides a description of the efficiency requirements in the rules, and how use these rule requirements and our pricing principles to guide our decisions on our tariff levels.

7.5.1 EFFICIENCY REQUIREMENTS IN THE RULES

We have made sure that our tariffs levels meet the efficiency requirements within the rules. This includes:

- Ensuring the revenue for each tariff class sits between the avoidable and stand alone cost of supplying these customers (refer Box 7–1)
- Taking into account an estimate of the long run marginal cost (**LRMC**) for each of our tariff components (refer Box 7–2)

These tests ensure that there are no inefficient cross-subsidies between customers from different tariff classes.

Box 7–1: Rule 94 (3) of the National Gas Rules

For each tariff class, the revenue expected to be recovered should lie on or between:

a) an upper bound representing the stand alone cost of providing the reference service to customers who belong to that class; and

b) a lower bound representing the avoidable cost of not providing the reference service to those customers.

Box 7–2: Rule 94 (4) of the National Gas Rules

A tariff, and if it consists of 2 or more charging parameters, each charging parameter for a tariff class:

a) must take into account the long run marginal cost for the reference service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates;

b) must be determined having regard to:

i. transaction costs associated with the tariff or each charging parameter; and

ii. whether customers belonging to the relevant tariff class are able or likely to respond to price signals.

7.5.1.1 Stand alone and avoidable cost efficiency test

These tests are designed to ensure our customers ‘pay their way’ without ‘paying too much’.

The avoidable costs for a tariff class are the theoretical cost savings that would be made if the customers in that tariff class were to cease to exist whilst all other customers in other tariff classes remained the same. This is often a relatively low value as it would generally only include assets specifically dedicated to those customers and a portion of operating expenses reflecting the incremental costs of supplying each customer.

Requiring that revenue from a tariff class is above avoidable cost ensures our customers 'pay their way'. This makes sense because if the revenue from these customers was less, then revenues from customers in other tariff classes would be 'too high', meaning other customers may be inefficiently cross-subsidising that tariff class.

The stand alone cost for a tariff class is the theoretical cost of building and operating a network designed solely for that tariff class. This is often relatively high as there are no economies of scale from using shared assets to supply multiple tariff classes.

Requiring revenue from a tariff class is below standalone cost ensures customers don't 'pay too much'. This makes sense as we don't want to incentive inefficient behaviour by encouraging customers to duplicate our assets and build their own network as this would mean these customers would not be able to share any of the efficiency benefits from using a shared network.

Table 7–7 shows that we expect all our revenue from each tariff class in 2015-16 to fall between the stand alone and avoidable cost estimates.

Table 7–7: Efficient bounds for expected revenues ($nominal, $000)

	Avoidable Cost	Revenue	Stand alone cost	Compliance check
VI-Coastal	$58,843	$476,099	$1,678,979	Compliant
VI-Country	$9,428	$57,192	$360,989	Compliant
VB-Coastal	$27	$606	$319,813	Compliant
VB-Country	$1	$21	$128,516	Compliant
VRT-03	$7	$203	$167,223	Compliant
VRT-04	$66	$299	$167,177	Compliant
VRT-06	$0	$0	$125,258	Compliant
VRT-10	$0	$0	$125,258	Compliant
DC-1	$443	$3,379	$326,243	Compliant
DC-2	$858	$5,982	$342,066	Compliant
DC-3	$1,241	$10,879	$355,684	Compliant
DC-4	$507	$4,931	$335,794	Compliant
DC-5	$0	$0	$327,533	Compliant
DC-6	$406	$2,371	$288,825	Compliant
DC-7	$278	$2,396	$289,027	Compliant
DC-9	$0	$0	$277,287	Compliant
DC-10	$138	$828	$281,822	Compliant
DC-11	$0	$0	$277,148	Compliant
DC- Country	$537	$3,664	$328,425	Compliant

	Avoidable Cost	Revenue	Stand alone cost	Compliance check
DT	$18	$3,297	$125,276	Compliant
DMT-4	$0	$0	$125,258	Compliant
DMT-5	$0	$0	$125,258	Compliant

Source: JGN cost of services model

(1) Costs are annualised stand alone and avoidable costs.
(2) JGN has removed active tariff classes with 3 or less customers to protect private customer information.

Our access arrangement information, published on the AER website, provides details of our stand alone and avoidable cost calculations.

7.5.1.2 Estimating long run marginal cost

The rules require us to take into account LRMC when setting tariff levels. LRMC measures how long run operating and capital costs change as a result on an ‘incremental’ demand change.

The purpose of requiring tariffs levels take LRMC into account reflects the economic principle that prices should reflect the underlying costs of providing the service over time. As consumption increases the required capacity of the network, augmentation is required to accommodate the additional demand. Therefore, in order for consumption decisions to take into account these increased costs, current prices need to reflect the expected additional costs arising from additional consumption. Prices set on the basis of marginal costs also provide a signalling function to ensure customers make efficient consumption decisions.

We have estimated LRMC for each of our volume tariff classes using an approach known as the average incremental approach. Like any approach to estimating LRMC, the outputs of this method are subject to:

- the assumptions made
- the quality and availability of the data inputs.

We take these considerations into account when relating our LRMC estimates to our tariff levels.

Table 7–8 details our estimated LRMC values for our tariff components in the volume market.

Table 7–8: LRMC for each tariff class by tariff component

Tariff class	Tariff component		
	Fixed $/annum[31]	Variable $GJ chargeable demand	Variable $/GJ
VI-Country	43.56	n/a	13.03
VI-Coastal	93.71	n/a	13.11
VB-Coastal	6.21	n/a	12.08
VB-Country	6.21	n/a	11.93
VRT-03	15.12	11.97	n/a

31 Note that the values are calculated per end customer. That is, for the boundary metered tariffs $6.2 is the LRMC for supplying each end customer behind the meter and not the LRMC of each boundary metered customer.

VRT-04	5.81	11.90	n/a
VRT-06	5.81	11.75	n/a
VRT-10	5.81	11.75	n/a

Our model has produced LRMC values of zero for the demand market as there is no growth in this market during the forecast horizon. That is, we do not expect the demand market to drive incremental growth-related investment on our network. This is consistent with the incremental cost to the shared network being specific to individual demand customers' characteristics. These customers may also pay material connection charges for any incremental cost when they connect or materially grow their usage.

7.5.2 FROM LRMC TO TARIFF LEVEL

Our tariff levels have a primary function of recovering our costs as determined by the AER every five years (refer Box 7–3). 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.

Box 7–3: Rule 94 (5) of the National Gas Rules

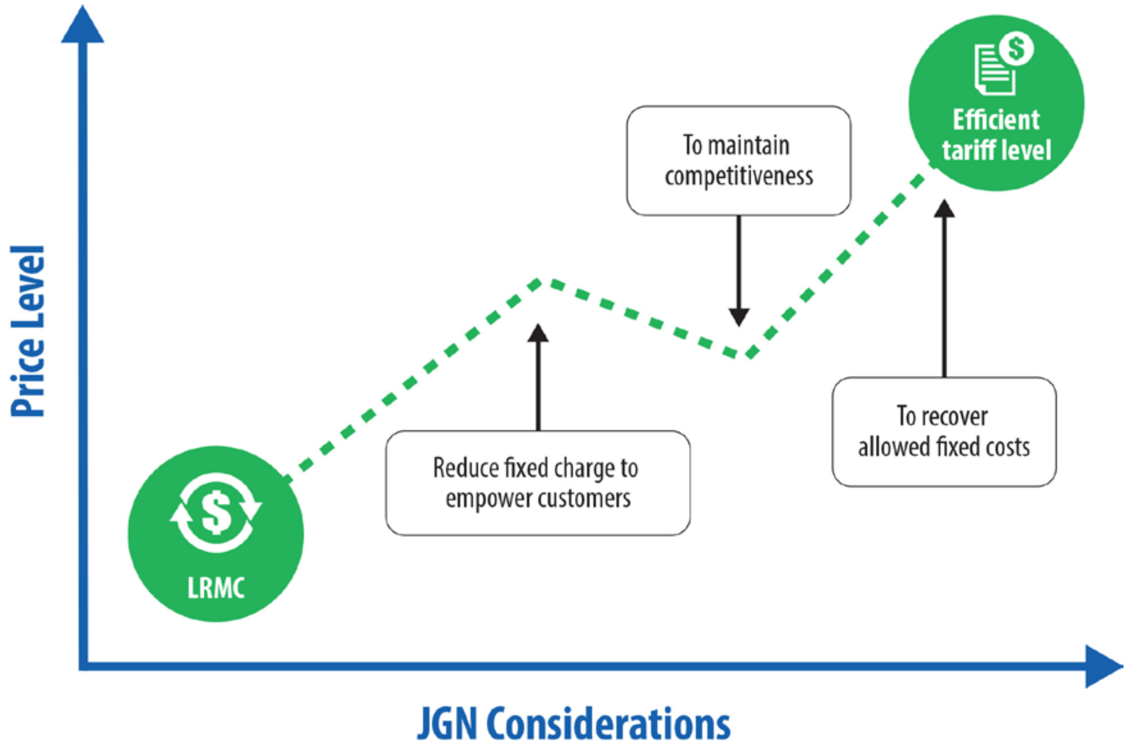
> *If, however, as a result of the operation of subrule (4)* [94(4) – refer Box 8–2]*, the service provider may not recover the expected revenue, the tariffs must be adjusted to ensure recovery of expected revenue with minimum distortion to efficient patterns of consumption.*
>
> [Addition in brackets added for clarification]

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. Below we show how we start with our LRMC estimates, consider how best to balance the pricing principles within the external market environment, to arrive at our final tariff levels.

Figure 7–1 demonstrates how our pricing principles influence the final tariff level for our volume throughput (usage) tariffs components ($/GJ).

This shows that in balancing our pricing principles, minimising our fixed charges has an upward impact on the throughput charges. This is because lowering our fixed charges involves recovering our other costs through usage based charges.

Figure 7–1: Volume tariff classes: From LRMC estimate to tariff level



In balancing these principles, we continually engage with our customers to understand their preferences and scan the external environment (including the pricing of gas and other fuels in other jurisdictions). We have minimised our fixed charges because:

- Charging for our services in this way makes sense to our customers (our customers' preference is for usage based pricing)
- It empowers customers to manage their usage and therefore their bills (particularly in a rising gas price environment)
- It encourages new customers to connect to gas to improve the utilisation of our network and lower our average prices.

8. UPDATING OUR TARIFF CLASSES, STRUCTURES AND LEVELS

As section 3 discussed, following the first year of the 5 year regulatory period, we may make adjustments to the tariff schedule for the remaining 4 years, subject to consulting with our customers and stakeholders and the AER's approval.

In each of these four years, we will submit a document—the annual tariff variation notice (TVN)—to the AER for assessment and approval, This TVN explains:

- how we propose to vary tariffs structures and levels from the start of the next financial year (1 July)
- how customer and stakeholder engagement has informed our decisions on any changes our tariff structures and levels
- any material differences between the TVN and the information on tariffs and tariff structures in this TSS

The sections below provide more detail on the annual process for updating the tariff schedule following the first year of the 2015 period, and on making changes outside of these annual adjustments.

8.1 ANNUAL CHANGES TO THE TARIFF SCHEDULE

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.

Given that we want to involve customers and stakeholders in our decision making, we engage with our customers and stakeholders on these annual changes. In addition to preparing this TSS we will:

- inform customers and stakeholders of the annual changes in the tariff levels through the JGN Customer Council, retailer forum, the JGN website and email notification to registered subscribers
- consult with customers and stakeholders on any proposed changes to tariff structures or ancillary charge levels (outside of changes for inflation) through the JGN Customer Council, retailer forums, and potentially focus groups with residential and business customers. This consultation would occur around November in any year
- explain variations between this TSS and outturn tariffs in our annual TVN's.

The process for annual changes to our network tariffs taking effect form 1 July each year is contained in clause 3 of our access arrangement and outlined in Table 8–1.

We want to ensure that customers are empowered to participate in the energy market and ensure that the competitive retail market 'works' for customers. We have responded to stakeholder preferences to have earlier sight of our price changes. We will submit our annual TVN that contains our proposed prices and any tariff structure changes a month earlier on 15 March each year.[32] This will provide retailers with more time to prepare their market offers, and for customers to assess these market offers prior to the 1 July price change.

[32] The prices for the initial year of an access arrangement are approved by the AER in its determination on our access arrangement. This means that prices for the year ending 30 June 2016 (RY16) prices will be approved by the AER in its determination in April 2015.

Table 8–1: JGN annual tariff variation process

Timing	Process
November	JGN consults on any proposed change to: • tariff structures • non-inflationary changes to the charges for user requested ancillary activities
End-January	December quarter CPI data available—we have to use December quarter CPI in our variation formula.
January—March	JGN prepares its TVN
15 March	JGN submits its TVN to the AER and publishes its proposed prices on its website
15 March + 30 business days	AER approves our tariff variation notice. • If the AER needs more time to obtain more information from JGN, it can extend the 30 business days to a maximum of 50 business days (providing it makes the extension within the 30 business days)
50 business days prior to 1 July	JGN provides the AER notification of its averaging period for the purposes of calculating the cost of debt element of the return on capital for the year beginning 1 July[33]
1 July[34]	New tariffs and any new tariff structures to take effect.

The annual TVN will contain a description of all the elements that makes up the change including:

- the inflation[35] figures
- the X factor[36] approved in our 2015-20 access arrangement
- all annual adjustments[37] where actual costs have been different to those allowed by the AER
- all proposed pass through amounts[38] which have a significant positive or negative impact on JGNs revenue
- an explanation of all material differences between the statement of expected network tariff trends in section 10 and the outturn tariffs in the annual TVN
- any relevant outcomes from our customer engagement outlines in section 8.1.

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[33] The cost of debt averaging period affects the x-factor used in the price path (refer section 10).

[34] For the 2015 period, prices for the period ending 30 Jun 16 are set by the AER's JGN access arrangement determination. The tariff variation process will occur from 2016 (for prices for the year ending 30 Jun 17) to 2019 (for prices for the year ending 30 Jun 20).

[35] We use the Australian Consumer Price Index (**CPI**) as the measure of inflation

[36] The X factor is a nominal price change. The distribution X factors form part of an AER's determination of the 2015 Plan, and drive annual price increases or decreases.

[37] Annual true ups can only occur in relation to licence fees, a change in tax, carbon, unaccounted for gas and cost of debt.

[38] Pass-through events are for specific unforseen events including a business continuity event, market costs event, declared retailer of last resort event, regulatory change event, and/or general pass through event. These are defined in our access arrangement, which also includes the materiality thresholds.

8.2 CHANGES OUTSIDE THE ANNUAL PROCESS

We can propose to amend our tariff schedule within a regulatory year (that is, outside the annual process) by providing the AER a variation notice at least 50 business days prior to the proposed commencement date of the tariff variation. Within-year variation proposals are also subject to AER verification.

The potential to make such variations are included in the access arrangement for where a particularly severe event (e.g. a severe earthquake) has materially impacted our assets, and we are unable to wait until the next 1 July tariff level change before amending our tariffs or tariff structures. However, we could also use it to provide immediate effect to pass-through items such as were the government to repeal the carbon tax.

To date, we have not sought to vary prices outside the annual process and only in extenuating circumstances would we seek to do so. We would keep our customers and stakeholders informed via our JGN Customer Council, our website and through appropriate direct engagement.

9. HOW A NEW TARIFF SCHEDULE TAKES EFFECT

Section 8 outlined that a new tariff schedule will take effect annually (as at 1 July) and in some limited instances, outside the annual process. This section outlines how our tariff schedule updates make their way into customer bills.

9.1 ANNUAL TARIFF SCHEDULE TAKES EFFECT FROM 1 JULY

The bill that a customer faces comes from the gas retailer. Following the AER's approval of our network tariffs in late April or early May, retailers need time to incorporate our network tariffs, and estimates of their other costs, into their retail prices.

The AER assists customers to make an informed choice about energy offers by offering a retail price comparison website that compares retail market offers.

http://www.energymadeeasy.gov.au/

Regulation of retail gas prices in NSW

The Independent Pricing and Regulatory Tribunal NSW (**IPART**) is responsible for regulating retail gas prices in NSW for those customers who have not entered into a market contract with a gas retailer.

Retailers submit their own pricing proposals to IPART. IPART assesses these proposals and makes its final decision in June. This allows retailers to update their prices by 1 July each year.

More information on IPART's process can be found on the retail pricing section of IPART's website here: http://www.ipart.nsw.gov.au/Home/Industries/Gas/Reviews/Retail_Pricing

10. EXPECTED NETWORK TARIFF TRENDS

The gas market is dynamic, making it difficult to forecast movements in individual tariff components. However, our customers have told us they would like to have more certainty and predictability around movements in their network tariffs.

This section includes current forecasts of expected price paths for each tariff and tariff component. We provide forecasts price paths for:

- average price changes
- volume customer component price changes
- demand customer component price changes
- user initiated ancillary activities price changes.

Tariff levels for each tariff component change each year for three key reasons:

- to better meet our pricing objectives, including to recover our allowed revenue set by the AER
- to adjust for inflation
- to adjust for any AER allowed pass through events and administrative true ups.

The analysis here only covers the first two as pass through events are unpredictable and infrequent. Administrative true-ups are only required where actual costs for specific allowed items[39] are different to forecast.

10.1 AVERAGE PRICE CHANGES

Table 10–1 provides the average changes in tariffs and charges for the 2015 period. Note that for us, a regulatory year (**RY**) is the year ending 30 June (the proposed price path).[40]

Table 10–1: Average changes in tariffs over the 2015 period

	RY16	RY17	RY18	RY19	RY20
x-factor (nominal price change)	-4.0%	-2.7%	-2.7%	-2.7%	-2.7%
Forecast inflation	2.55%	2.55%	2.55%	2.55%	2.55%
Total price change	-1.6%	-0.2%	-0.2%	-0.2%	-0.2%

(1) Total price change (C) for any year equals (1 + A) x (1+ B) – 1

We operate under a weighted average price cap (**WAPC**) form of price control. This means that the AER caps the amount that our volume weighted average prices can move compared to the levels above. This means it is us, and not our customers, with the risk that demand is different to what we have forecast (and therefore

39 These administrative true-ups are for licence fees, unaccounted for gas, carbon tax and a change in tax event.

40 These will be replaced with AER approved values once available.

revenue is different to expectations). It provides us some flexibility[41] to adjust individual prices outside the range in Table 10–1 to ensure our tariffs are consistent with our pricing principles and any market changes.

Figure 10–1 outlines the estimated real change in the network component of a customer's bill over the five year period for a typical:

- residential customer—we have around 1.2 million residential customers
- commercial customer—we have around 15,000 commercial customers
- industrial customer—we have around 400 industrial customers

Figure 10–1: Estimated change in typical network customer bills, 2015-20 ($real)

10.2 VOLUME CUSTOMER COMPONENT PRICE CHANGES

Table 10–2 provides an indicative price path for the tariffs paid by our residential and small business customers (volume tariffs) compared to the average price changes indicated in the first row. The movement in these tariff components are required to meet our pricing objectives, including ensuring cost reflective and efficient tariffs as well as improving our competitiveness against electricity.

The arrows indicate our expectations for the changes relative to the average price change - either higher (🡅) or lower (🡇) than the average price decreases. For the avoidance of doubt, a higher value is a more positive or less negative value.

For ease of viewing, the tariff components that we expect to move in line with the average price change over the period have not been provided.

41 Our flexibility is limited by a 10% 'side constraint' on the movement of expected revenues that would be obtained from changing prices within any tariff class.

Table 10–2: Expected price trends – volume tariff components

Expected trend relative to average	RY16	RY17	RY18	RY19	RY20
Average volume customer trend (real)	-4.2%	-2.9%	-2.9%	-2.9%	-2.9%
Above average change (↑)	VRT all blocks	VRT all blocks	VRT all blocks	VRT all blocks	VRT all blocks
Below average change (↓)	VI Block 2	VI Block 2	VI Block 2	Vi Block 2	VI Block 2
Same as average volume market trend	All remaining volume tariff components				

10.3 DEMAND CUSTOMER COMPONENT PRICE CHANGES

Table 10–3 provides an indicative price path for our demand tariffs compared to the average price changes indicated in the first row.

These variances are required to meet our pricing objectives, including ensuring cost reflective and efficient tariffs as well as improving the competitiveness of gas as a fuel.

We seek to apply consistent and steady price movements for our demand customers to provide certainty and assist long-term planning. For this reason demand customers did not experience the same level of increases as the volume market from 2010-15 and are not subject to the 2015-20 price decreases applicable to the volume market.

Table 10–3: Expected price trends – demand tariff components

Expected trend relative to average	RY16	RY17	RY18	RY19	RY20
Average demand customer trend (real)	2.4%	2.4%	2.4%	2.4%	2.4%
Above average change (↑)	DC Block 1	DC Block1	DC Block1	DC Block1	DC Block1
Below average change (↓)	DC Block 2	DC Block 2	DC Block 2	DC Block 2	DC Block 2
Same as average demand market trend	All remaining volume tariff components				

10.4 ANCILLARY CHARGES

Our user requested ancillary charges are set to recover our costs to undertake the required activity.

We only expect charges for user the user initiated ancillary activities to change by CPI. This would result in charges being held constant in real terms for the 2015-20 (i.e. only increased by inflation). This has the benefit of providing certainty to customers and stakeholders on the price of these user requested activities.

Table 10–4 provides the forecast schedule of ancillary charges based on current CPI estimates.

Table 10–4: Ancillary activity charges schedule ($nominal, excluding GST)

User initiated ancillary activity	RY16	RY17	RY18	RY19	RY20
Hourly charge—non-standard retailer-initiated transaction	100.00	102.55	105.16	107.83	110.58
Temporary disconnection—large customers	150.00	153.82	157.74	161.75	165.87
Disconnection	150.00	153.82	157.74	161.75	165.87
Decommissioning and meter removal (for meters less than or equal to 6m^3/hr)	1050.00	1076.73	1104.15	1132.26	1161.09
Decommissioning and meter removal (for meters with capacity greater than 6m^3/hr)	2188.00	2243.71	2300.83	2359.41	2419.48
Special meter read (per meter read)	14.80	15.18	15.56	15.96	16.37

It is possible in some limited circumstances that our underlying costs to provide these activities may materially change. If so, prior to proposing changes to these charges we would:

- conduct an open and transparent consultation process as discussed in section 9.
- provide the proposed charges to the AER for their review and approval.