

Capital Expenditure Overview



**Residential and Commercial and Industrial
Connections Capital Expenditure**



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Approval and Amendment Record

VERSION	AMENDMENT OVERVIEW
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1. Purpose of this document

This document explains and justifies at a high level our Residential and Commercial and Industrial (C&I) connections capital expenditure (capex) forecasts for our Pipeline Services for our next access arrangement period (1 January 2018 to 31 December 2022). This document references other supporting documents for further detail. Unless otherwise stated, capex is presented in real 2017 dollars and is expressed in total costs for our Pipeline Services, which includes both our Reference Services and our Non-Reference Services. Total values shown in tables and referred to in the text of this document may not reconcile due to rounding.

The actual 2013 to 2015 capex detailed in this document does not include overheads, as this was reported separately to the AER in our Annual Regulatory Information Notices for these years, rather than being incorporated into each capex sub-category.

We note that our forecast annual revenue requirements for our Haulage Reference Services do not include returns on and of capex attributable to Non-Reference Services (including from major asset relocations) because they are based on our net capex only. This is because our capital contributions (and therefore the revenue that we receive from our major relocations) are netted off from our gross (pipeline services) capex forecast in developing our regulatory asset base for our Haulage Reference Services.

For clarity, Attachment 1 details how we have allocated the components of our costs between our different capex categories. Importantly, our Residential and C&I Connections capex forecasts in this document do not include any capex relating to recoverable works, including for major asset relocations. The capex relating to these recoverable works is included in our Other capex forecasts – this is addressed in our Other Capex Overview Document. However, our capital contribution forecasts included in this document do include the revenues that we receive from our major asset relocations.

We have provided our Capital Growth Plan (MG-PL-0002) to the AER with this Overview Document. The forecasts in our Capital Growth Plan document do not include labour escalators or overheads, whereas the forecasts in this Overview Document are total costs (unless otherwise stated). The following table reconciles the forecasts in the Capital Growth Plan with those in this Overview Document and our Access Arrangement Information.

Table 1: Breakdown of 2018-22 capex forecasts by direct costs, overheads and escalations (\$M, Real 2017)

Program	Strategy	2018	2019	2020	2021	2022	Total
Tariff V - Domestic Connections	MG-PL-0002	18.1	17.1	16.2	16.5	17.1	85.0
Tariff V - Domestic Connections (Marketing Allowance Step Change)	MG-PL-0002	0.6	0.6	0.6	0.6	0.6	2.9
Tariff V - Industrial & Commercial Connections	MG-PL-0002	3.5	3.4	3.5	3.6	3.6	17.7
Tariff D - Industrial Connections	MG-PL-0002	0.5	0.5	0.5	0.5	0.5	2.5
Total Direct (excluding escalations)		22.6	21.6	20.8	21.3	21.8	108.1
Overheads		1.4	1.3	1.3	1.3	1.3	6.5
Total including overheads (excluding escalations)		24.0	22.9	22.1	22.5	23.1	114.6
Escalations		0.1	0.1	0.2	0.2	0.3	1.0
Total including overheads and escalations		24.1	23.1	22.3	22.8	23.4	115.6

2. Structure of this document

This document is structured as follows:

- Section 3 details our Residential and C&I Connections capex profile for the previous, current and forthcoming access arrangement periods;
- Section 4 explains the conceptual nature of our Residential and C&I Connections capex and why it is necessary;
- Section 5 explains and justifies our actual Residential and C&I Connections capex against the Australian Energy Regulator's (AER) allowances in the current access arrangement period (1 January 2013 to 31 December 2017);
- Section 6 explains and justifies our forecasting methodology for our Residential and C&I Connections capex for the next access arrangement period;
- Section 7 details our Residential and C&I Connections capex forecasts for the next access arrangement period;
- Section 8 explains how we consider that our Residential and C&I Connections capex forecasts meet the requirements of the National Gas Rules; and
- Section 9 details the supporting documentation relevant to our Residential and C&I Connections capex forecasts.

3. Expenditure Profile

This section details the profile of our Residential and C&I Connections capex for the previous, current and forthcoming access arrangement periods.

3.1. Connections Capex

Our Residential and C&I Connections capex comprises capex that we directly incur ourselves as well as connections that are directly funded by customers through customer contributions.

Our Residential and C&I Connections capex for the previous, current and forthcoming access arrangement periods is presented in Table 2, Table 3 and Table 4 respectively.

Table 2 compares the Essential Services Commission of Victoria's (ESCV) Residential and C&I Connections capex allowance from its Final Decision with the actual capex that we incurred for the previous access arrangement period. It shows that we spent \$14.7 million more for the period than the ESCV allowed, of which \$13.1 million related to residential connections and \$1.6 million related to C&I connections.

Table 2 - Previous access arrangement period Residential and C&I Connections capex (\$M, Real 2017)

		2008	2009	2010	2011	2012	TOTAL
Final Decision	Residential	13.2	14.2	14.8	15.5	14.9	72.5
	C&I	1.9	2.0	2.1	2.2	2.1	10.4
	Total	15.1	16.2	16.9	17.7	17.0	82.9
Actual	Residential	19.5	20.6	13.8	15.3	16.3	85.6
	C&I	1.8	3.1	2.1	2.7	2.4	12.0
	Total	21.3	23.7	15.9	18.1	18.7	97.6
Variance (Actual – Final Decision)	Residential	6.3	6.5	(0.9)	(0.2)	1.5	13.1
	C&I	(0.2)	1.0	(0.0)	0.6	0.3	1.6
	Total	6.1	7.5	(1.0)	0.4	1.7	14.7

The main reason for the \$14.7 million overspend in the previous access arrangement period is that the ESC's forecast in its Final Decision did not include an allowance for new connections associated with the South Gippsland project. These connections mostly occurred in 2008 and 2009. The AER has assessed the expenditure for 2008 to 2012 as being conforming capex.

Table 3 compares the AER's Residential and C&I Connections capex allowance from its Final Decision with the actual capex that we estimate we expect to incur for the current access arrangement period. It shows that we expect to spend \$21.5 million more for the period than the AER allowed, of which \$12.4 million relates to residential connections and \$9.1 million relates to C&I connections.

Table 3 - Current access arrangement period Residential and C&I Connections capex (\$M, Real 2017)

		2013	2014	2015	2016*	2017*	TOTAL*
Final Decision	Residential	14.0	15.9	15.8	15.4	15.4	76.5
	C&I	1.4	1.4	1.4	1.4	1.4	7.2
	Total	15.5	17.3	17.3	16.8	16.9	83.8
Actual	Residential	16.5	16.5	19.1	17.5	19.2	88.9
	C&I	1.3	2.5	4.2	4.1	4.1	16.3
	Total	17.9	19.1	23.3	21.7	23.4	105.2
Variance (Actual – Final Decision)	Residential	2.5	0.7	3.3	2.1	3.8	12.4
	C&I	(0.1)	1.1	2.7	2.7	2.7	9.1
	Total	2.4	1.7	6.0	4.8	6.5	21.5

* = Estimate

The \$21.5 million overspend in the current access arrangement period is caused by Residential connection unit rates being approximately 16 per cent above the AER's Final Decision and C&I connection volumes being more than double the forecast in the AER's Final Decision. We consider our capex for the period 2013 to 2017 to be efficient for the reasons discussed in section 5.

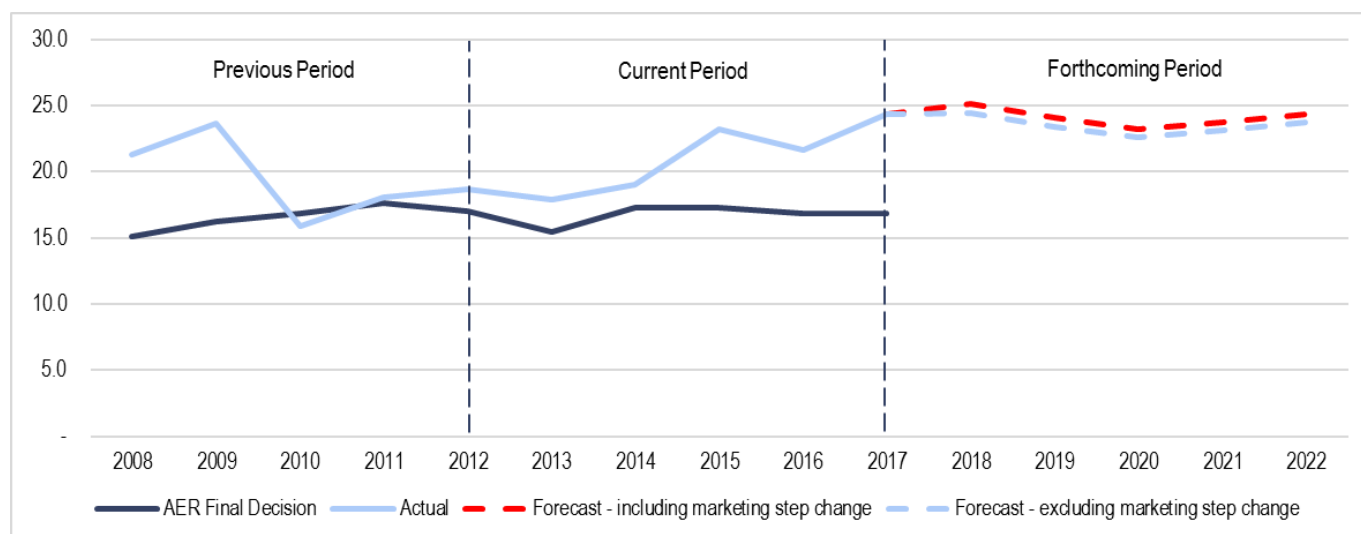
Table 4 details our forecast for our Residential and C&I Connections capex for the forthcoming access arrangement period including and excluding the effect of our proposed marketing step change. Our forecast capex including the marketing step change is \$115.6 million. This is around \$10.4 million more than what we expect to spend in the current access arrangement period. We discuss further in section 6 how we have prepared this forecasts and in section 7 how we justify and support this forecast.

Table 4 – Forthcoming access arrangement period Residential and C&I Connections capex (\$M, Real 2017)

		2018	2019	2020	2021	2022	TOTAL
AAI Proposal	Residential	19.3	18.2	17.3	17.7	18.3	90.8
	C&I	4.2	4.2	4.3	4.4	4.4	21.6
	Total	23.5	22.4	21.6	22.1	22.7	112.4
AAI Proposal with marketing	Residential	19.9	18.9	17.9	18.3	19.0	94.0
	C&I	4.2	4.2	4.3	4.4	4.4	21.6
	Total	24.1	23.1	22.3	22.8	23.4	115.6

Figure 1 illustrates the profile of our connections capex for the period 2008 to 2022 with and without our proposed marketing step change for the forthcoming access arrangement period.

Figure 1: Connections capex profile - 2008 to 2022 (including and excluding marketing step change) (\$M, Real 2017)



3.2. Customer Contributions

Some customer connections and recoverable works¹ are funded (in whole or part) directly by our customers who request them through what we refer to as customer contributions (also known as capital contributions).

All of our customer contributions are cash contributions. These are payments that we receive from customers where the incremental cost of the connection is greater than the incremental revenue we receive from them. We calculate the amount of the customer contribution for an individual connection in accordance with our "Multinet Gas Customer Contribution Policy". We have developed this policy in accordance with the ESCV's Gas Distribution System Code.

We do not receive any of our customer contributions in the form of gifted assets as no other party builds assets and gifts them to us to operate and maintain.

Our customer contributions for the previous, current and forthcoming access arrangement periods are presented in the following tables.

Table 5 shows that for the previous access arrangement period we received \$3.0 million more in customer contributions than the ESCV's determination.

Table 5 - Previous access arrangement period customer contributions (\$M, Real 2017)

	2008	2009	2010	2011	2012	TOTAL
Final Decision	(1.8)	(1.8)	(1.9)	(1.9)	(2.2)	(9.7)
Actual Customer Contributions - Major Relocation Works	(1.7)	(1.7)	(1.4)	(1.6)	(1.0)	(7.4)
Actual Customer Contributions - Other	(1.0)	(0.9)	(1.2)	(0.8)	(1.4)	(5.3)
Variance (Actual – Final Decision)	0.8	0.8	0.7	0.5	0.2	3.0

Table 6 shows that for the current access arrangement period we expect to received \$23.6 million more in total customer contributions than the AER allowed.

¹¹ As noted in section 1, our capex associated with recoverable works, including for major asset relocations, are included in our Other Capex category, which is dealt with in our Other Capex Overview Document.

Table 6 - Current access arrangement period customer contributions (\$M, Real 2017)

	2013	2014	2015	2016*	2017*	TOTAL*
Final Decision	(12.7)	(4.7)	(1.8)	(1.8)	(1.8)	(22.7)
Actual Customer Contributions - Major Relocation Works	(3.7)	(4.5)	(3.6)	(10.5)	(13.7)	(36.1)
Actual Customer Contributions - Other	(2.4)	(2.3)	(2.7)	(1.4)	(1.5)	(10.3)
Variance (Actual – Final Decision)	(6.7)	2.0	4.6	10.2	13.5	23.6

* = Estimate

Table 7 shows that for the forthcoming access arrangement period we are forecasting that our total customer contributions will be \$45.6 million. As discussed in section 6.1.3, we expect that our major asset relocations will continue at around their existing levels in the forthcoming period.

Table 7 – Forthcoming access arrangement period customer contributions (\$M, Real 2017)

	2018	2019	2020	2021	2022	TOTAL
Actual Customer Contributions - Major Relocation Works	(7.1)	(7.1)	(7.1)	(7.1)	(7.1)	(35.6)
Actual Customer Contributions - Other	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(10.0)
Total Customer Contributions	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)	(45.6)

3.3. Trend analysis

Table 8 shows the following in relation to our Residential and C&I Connections capex over the previous, current and forthcoming access arrangement periods:

- Our Residential Connections capex is in a relatively stable band (between \$13.8 million and \$20.6 million per annum);
- Our C&I Connections capex increased in the current period and will increase slightly in the forthcoming access arrangement period; and
- Our customer contributions increased markedly between the previous and current periods but are forecast in the forthcoming access arrangement period to average that in the current period.



Table 8 – Residential and C&I Connections Capex and Customer Contributions 2008 to 2017 (\$M, Real 2017)

	2008	2009	2010	2011	2012	2013	2014	2015	2016*	2017*	2018	2019	2020	2021	2022
Residential Capex	19.5	20.6	13.8	15.3	16.3	16.5	16.5	19.1	17.5	19.2	19.9	18.9	17.9	18.3	19.0
C&I Capex	1.8	3.1	2.1	2.7	2.4	1.3	2.5	4.2	4.1	4.1	4.2	4.2	4.3	4.4	4.4
Total Capex	21.3	23.7	15.9	18.1	18.7	17.9	19.1	23.3	21.7	23.4	24.1	23.1	22.3	22.8	23.4
Customer Contributions	(2.6)	(2.6)	(2.6)	(2.4)	(2.4)	(6.1)	(6.7)	(6.3)	(11.9)	(15.2)	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)

* = Estimate



4. Nature of expenditure

This section explains the conceptual nature of our Residential and C&I Connections capex and why it is necessary.

4.1. Our obligations to connect customers

We have a regulatory obligation to offer to connect customers to our gas distribution system, which arises under our Gas Distribution Licence and the ESCV's Gas Distribution System Code.

We operate under a Gas Distribution Licence that is issued by the ESCV under section 29(c) of the *Gas Industry Act 2001*.

Clause 4 of our Gas Distribution Licence requires that we comply with the Gas Distribution System Code.

The ESCV has issued, and has from time to time revised, the Gas Distribution System Code.²

Clause 3.1(a) of the current Gas Distribution System Code provides that:

Subject to clauses 3.1(b) and 3.1(c)³, upon request by a customer, a Distributor must connect to its distribution system that customer's gas installation, provided that

- (i) the gas installation at the supply address complies with regulatory requirements;*
- (ii) the customer:*
 - A. has a contract with the Distributor for the haulage of gas; or*
 - B. has a contract for the purchase of gas with a Retailer which has a contract with the Distributor for the haulage of gas; and*
- (iii) in respect of a new connection the customer provides to the Distributor upon request a notice of installation, or completion, of gas installation work from a gas installer.*

Clauses 3.1(a) to 3.1(f) of the Gas Distribution System Code detail our, and our customers', respective obligations in making, and receiving, a connection. These obligations include a requirement for us to connect "a customer that resides within the minor or infill extension area on fair and reasonable terms and conditions"⁴, which include the "Guidance on Connection Charges" specified in Schedule 2 of the Gas Distribution System Code. We discuss this further in section 4.5 in relation to customer contributions.

4.2. Undertaking customer connections

Connections are initiated by, and carried out at the request of, our customers.

Customer connection activity is strongly correlated with the level of economic activity and, in particular, building and infrastructure developments. Most Residential and C&I Connections capex is therefore based on econometric drivers. The timing and level of customer connection projects are largely outside of our control.

Customer connections involve establishing new connections or modifying or extending our existing distribution system to accommodate new customers' demand.

Customer connections are undertaken in accordance with the Gas Distribution System Code on a least cost technically acceptable basis.

In most circumstances (Tariff V), we deliver each customer connection through a series of "unitised job", rather than as a single project. These unitised jobs are undertaken by one of our contracted

² Version 11 is the current version of the Gas Distribution System Code at the time of preparing this Overview Document.

³ Clauses 3.1(b) and 3.1(c) deal with the timing, and terms and conditions, for making a connection.

⁴ Clause 3.1(c)



service providers, Comdain and ZNX, or a sub-contractor acting on their behalf. The exceptions to this is for large customer connections (Tariffs D and L) where we may establish a project to track and bundle expenditure items.

Connections are funded either directly by us or by the customer who has requested the connection paying a customer contribution. The determination of customer contributions, including the application of least cost technically acceptable design and the Economic Feasibility Test, is discussed below in section 4.5.

4.3. Our competitive Service Provider model

We implemented a business transformation project during the current access arrangement period.

Our business transformation project built on the benefits that our previous business model had achieved. It has given us greater flexibility to manage future change and risk, and to deliver better value to our customers.

We adopted a ‘best of breed’ contractor model, in which we obtain the cost and service benefits from the best available contractors to bring specialist knowledge, skills and economies of scale and scope.

Our current business model is based on adopting a two-region model for delivering network operations, with separate service providers for each region. For information technology and customer and market service functions, we jointly engage specialist service providers with United Energy.

For network operations, we undertook a competitive tender process to identify our preferred suppliers. A total of 11 potential suppliers submitted responses to our Expression of Interest, of which a total of eight respondents were assessed as being capable of providing some of the services being tendered. This level of response – which was subsequently shortlisted to two respondents at the final evaluation stage – demonstrated the competitive nature of the tender process and confirmed the market’s appetite for our new business model. We adopted strict probity protocols to ensure the integrity of the tender process. We compared the tendered costs (including ‘restructuring’ or ‘transformation’ costs) with other options, including a projection of our existing cost structure at that time.

Comdain was the successful tenderer on the basis that it would deliver much improved outcomes, demonstrating the benefits of our proposed restructuring and “best of breed” model. Our previous service provider, Jemena, had a right under our Operating Services Agreement (that expired on 30 June 2013) to match Comdain’s winning bid from the tender. As a result, Comdain and ZNX (a Jemena subsidiary) became the Network Operations Services suppliers for those two regions.

The new business model optimises the mix of services to be provided internally and those to be procured through outsourced contracts. It establishes best-practice procurement arrangements for those outsourced services. Most of our capex – including our Residential and C&I Connections capex – is exposed to continuous competitive pressure between our two service providers, while ensuring that each network region is sufficiently large to avoid inefficiencies that may arise with smaller packages of work.

An important outcome of the new business model is ensuring that best practice contractual and governance arrangements are in place. These have been reflected in Operational and Management Services Agreements (OMSAs) with each service provider. The OMSAs have been designed to create a collaborative contractual relationship between us and our service providers to achieve our desired outcomes, and to deliver these as efficiently as possible.

Our Residential and C&I Connections capex is based on the rates in our OMSAs and they are therefore prudent and efficient given that they have been market-tested.

4.4. Nature of conforming capex

Clause 77 of the Rules provides for “conforming capital expenditure” to be added to a gas distributor’s opening capital base for regulatory purposes. Similarly, clause 78 provides for forecast “conforming capital expenditure” to be added to a gas distributor’s projected capital base.

Clause 79(1) provides that:



Conforming capital expenditure is capital expenditure that conforms with the following criteria:

- (a) the capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services;*
- (b) the capital expenditure must be justifiable on a ground stated in subrule (2).*

Clause 82 of the Rules provides that:

- (1) A user may make a capital contribution towards a service provider's capital expenditure.*
- (2) Capital expenditure to which a user has contributed may, with the AER's approval, be rolled into the capital base for a pipeline but, subject to subrule (3), not to the extent of any such capital contribution.*
- (3) The AER may approve the rolling of capital expenditure (including a capital contribution made by a user, or part of such a capital contribution) into the capital base for a pipeline on condition that the access arrangement contain a mechanism to prevent the service provider from benefiting, through increased revenue, from the user's contribution to the capital base.*

We submit that, for the reasons set out in sections 6 and 8 of this document, our forecast Residential and C&I Connections capex for the forthcoming access arrangement period that we set out in this Overview Document is forecast “conforming capital expenditure” that should be added to our projected capital base.

4.5. Regulatory requirements for determining customer contributions

Clause 5.1.4 of Part A of our current Access Arrangement states:

The Charges for Connection Services will be determined in accordance with any application requirements of relevant Regulatory Instruments (including where provided for by those Regulatory Instruments by negotiation between the Customer and the Service Provider or between the User and the Service Provider in accordance with those Regulatory Instruments).

The key “relevant Regulatory Instrument” arising under this clause is the ESCV’s Gas Distribution Supply Code. Schedule 2 of that Code provides guidance to gas distributors on the determination of charges for customer connections. Under these arrangements, the key concepts for assessing the eligibility and value of customer contributions that can be charged for a new connection are Least cost technically acceptable (LCTA) design and the Economic Feasibility Test (EFT). These must be adopted for the assessment of all supply connection charges.

We have reflected these arrangements into our “Multinet Gas Customer Contribution Policy”. The Policy details the considerations applied to the LCTA and also describes the framework for the application of the EFT. There are differences in how the EFT is applied for prospective residential and C&I connections.

Section 8.1 of the Policy refers to Simple Connections under Tariff V, and the installation details are consistent with the LCTA described in Section 6.4. The Policy identifies that “...for the majority of these simple connections, applying the EFT would result in no connection charge. Therefore, the EFT is not applied...”. Consequently, the general guideline is that normal residential connections are not subject to the EFT.

Section 8.2 of the Policy confirms that if a residential or C&I connection request does not meet the criteria for a “Simple Connection”, the request shall be deemed to be “Complex” and subject to the EFT.

4.6. Regulatory treatment of our forecast customer contributions

Our forecast customer contributions are deducted from our gross capex forecasts for our Pipeline Services to determine our net capex. In this way, our customer contributions are excluded from our



regulatory asset base for the purposes of determining our return on, and of, capital that is used to determine its revenue requirement for our Haulage Reference Services.

We therefore recover our customer contributions in addition to our annual revenue requirements.

4.7. Nature of our unitised jobs

We categorise our Residential and C&I Connections capex into three-letter Activity Codes, which are detailed in Attachment 2. These three-letter Activity Codes relate to the unitised jobs that we undertake to make a connection. This is discussed further in section 6.

4.8. Nature of connection projects

Connection projects relate to large connections to our network (Tariff D and L). We use three-letter Activity Codes in combination with project costings to account for these connections.



5. Current period expenditure

This section explains and justifies our actual Residential and C&I Connections capex and customer contributions profiles against the AER's allowances in its Final Decision for the current access arrangement period.

5.1. Our AAI and the AER's final decision

We prepared our Residential and C&I Connections capex forecasts for the current access arrangement period by distinguishing between our Reference Tariffs, being:

- Haulage Reference Service Tariff V – Residential – these are residential customers that use less than 10,000 GJ a year and less than 10 GJ MHQ;
- Haulage Reference Service Tariff V – Non-Residential – these are non-residential customers that use less than 10,000 GJ a year and less than 10 GJ MHQ; and
- Haulage Reference Service Tariff D – Non-Residential – these are non-residential customers that use more than 10,000 GJ a year and more than 10 GJ MHQ.

The AER rejected our Residential and C&I Connections capex forecast for:

- Residential Tariff V customers and applied a lower volume forecast;
- C&I Tariff V customers and applied lower unit rates; and
- C&I Tariff D and applied the average of our historical Tariff D capex.

Table 9 compares the Residential and C&I Connections capex in our Revised AAI and the AER's Final Decision for the current access arrangement period. It shows that the AER reduced our proposed Connections capex forecast by \$4.9 million (Real \$2017), or by about 5.5 per cent.

Table 9 – Current access arrangement period Residential and C&I Connections capex – Revised AAI and AER's Final Decision (\$M, Real 2017)

		2013	2014	2015	2016	2017	TOTAL
Revised AAI	Residential – Tariff V	14.3	16.9	16.9	16.6	16.7	81.4
	C&I – Tariff V	0.8	1	1	1	1	4.7
	C&I – Tariff D	0.7	0.6	0.6	0.6	0.6	3
	C&I – Total	1.4	1.4	1.4	1.6	1.6	7.3
	Total	15.8	18.3	18.3	18.2	18.3	88.7
Final Decision	Residential – Tariff V	14.0	15.9	15.8	15.4	15.4	76.5
	C&I – Tariff V	0.9	0.9	0.9	0.9	0.9	4.7
	C&I – Tariff D	0.5	0.5	0.5	0.5	0.5	2.5
	C&I – Total	1.4	1.4	1.4	1.4	1.4	7.2
	Total	15.5	17.3	17.3	16.8	16.9	83.8

The AER accepted in full our customer contributions forecast of \$22.7 million (Real \$2017) for the current access arrangement period, as detailed in Table 10.



Table 10 – Current access arrangement period customer contributions – Revised AAI and AER's Final Decision (\$M, Real 2017)

	2013	2014	2015	2016	2017	TOTAL
Revised AAI	(12.7)	(4.7)	(1.8)	(1.8)	(1.8)	(22.7)
Final Decision	(12.7)	(4.7)	(1.8)	(1.8)	(1.8)	(22.7)

5.2. Our actual capex against the AER's allowance

Table 11 details our Residential and C&I Connections capex for the first three years of the current access arrangement period and what we estimate will occur for the final two years of the period. The table also details our estimate of the variance of our capex to the AER's Final Decision.

We estimate that over the current five-year access arrangement period our Residential and C&I Connections capex will be about \$21.5 million greater than the AER's allowance, of which \$12.4 million relates to residential connections and \$9.1 million relates to C&I connections.

Table 11 – Actual Residential and C&I Connections capex and variance against AER's Final Decision (\$M, Real 2017)

		2013	2014	2015	2016*	2017*	TOTAL*
Final Decision	Residential	14.0	15.9	15.8	15.4	15.4	76.5
	C&I	1.4	1.4	1.4	1.4	1.4	7.2
	Total	15.5	17.3	17.3	16.8	16.9	83.8
Actual	Residential	16.5	16.5	19.1	17.5	19.2	88.9
	C&I	1.3	2.5	4.2	4.1	4.1	16.3
	Total	17.9	19.1	23.3	21.7	23.4	105.2
Variance (Actual – Final Decision)	Residential	2.5	0.7	3.3	2.1	3.8	12.4
	C&I	(0.1)	1.1	2.7	2.7	2.7	9.1
	Total	2.4	1.7	6.0	4.8	6.5	21.5

* = Estimate

Table 12 shows the connection volumes that supported both the AER's Final Decision and our actual connections capex for the current access arrangement period.



Table 12 – Current access arrangement period - comparison of forecast and actual connection volumes

		2013	2014	2015	2016*	2017*	TOTAL
Final Decision⁵	Residential	8,600	8,613	8,573	8,243	8,128	42,157
	C&I	197	196	193	193	193	972
	Total	8,797	8,809	8,766	8,436	8,321	43,129
Actual / Estimated	Residential	7,592	8,230	9,115	8,535	8,669	42,141
	C&I	413	444	469	474	477	2,277
	Total	8,005	8,674	9,584	9,009	9,146	44,418
Variance (Actual / Estimated – Final Decision)	Residential	(1,008)	(383)	542	292	541	(16)
	C&I	216	248	276	281	284	1,305
	Total	(792)	(135)	818	573	825	1,289

Table 12 shows that:

- Our residential connection volumes are within 0.04 per cent (or 16 connections) of the AER's benchmark;
- We have connected more than double the C&I forecast over the period (i.e. 2,277 to the benchmark of 972).

The estimated overspend in the current access arrangement period shown in Table 11 is therefore due to:

- Our unit rates underpinning our Residential connections being higher than the that used to support the AER's Final Decision forecast; and
- Our connections volumes for our C&I connections being more than double the AER's Final Decision forecast.

We consider our capex for the period to be prudent and efficient and to be consistent with the requirements for conforming capex because:

- Our two-party service provider model provides continuous competitive pressure for delivering our capex program. We recently established this model following a competitive tender process. This is discussed in chapter 13 of our AAI;
- Our out-turn unit rates are lower than those approved by the AER for the other Victorian gas distributors; and
- We have a robust capital governance framework that has recently been reviewed and endorsed by Jacobs. We have provided their report entitled "Review of Governance Structures and Processes for Capital Expenditure" to the AER with our AAI.

Our assessment is consistent with the view expressed by Oakley Greenwood in their November 2016 report entitled "Prudency and Efficiency of Mains Replacement and Connection Capex", where they said:

⁵ As per Multinet's revised Access Arrangement Information. Refer page 50 of the AER's "Access arrangement final decision – Part 2: Attachments" where it stated "The AER accepts NIEIR's demand forecast as an appropriate basis for Multinet's gross connections forecast". NIEIR's connection volume forecast was detailed in Table 6.1 on page 72 of "Attachment C-1 NIEIR Energy report, December 2011", which was provided with our revised Access Arrangement Information for the current period.



... the majority of MG's over-expenditure in commercial connections is driven by high connection volumes, as the actual/estimated unit rate is only marginally above forecast. The information provided indicates that the opposite is the case in relation to residential connections – outturn volumes are similar to forecast, however, the outturn unit rate is higher than what the AER allowed for in its final decision (\$2,112 versus \$1,824)⁶.

Oakley Greenwood went on to say that:

In our opinion, MG's outturn unit rates for connections are likely to be consistent with those that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services – which accords with Rule 79. Our basis for this statement includes:

- The contracts underpinning the rates were competitively tendered, which, everything else being equal, should lead to the market revealing the efficient cost of supply,*
- The approach for revising those rates over the life of the contract is, in our opinion, reasonable, and likely to provide a robust approach to applying competitive tension to the annual process for deriving new unit rates.*
- MG's outturn unit rates for its industrial/commercial customers (Tariff V and Tariff D) are still well below those the rates the AER approved as being efficient for AGN and AusNet Services' tariff V customers, and*
- MG's outturn unit rates for its residential customers are comparable, if not lower, than the rates the AER approved for AGN and AusNet Services⁷.*

Table 13 details our actual customer contributions for the first three years of the current access arrangement period and what we estimate will occur for the final two years of the period. The table also details our estimate of the variance of our customer contributions to the AER's Final Decision. We estimate that over the current five-year access arrangement period our customer contributions will be about \$23.6 million greater than the AER's allowance.

The key reason for the increase in our actual customer contributions has been major relocation works. These works have shown significant growth in the current period. This reflects the fact that there has been an increase in infrastructure spending in metropolitan Melbourne on projects such as rail crossing removals, Melbourne Metro Rail Tunnel and numerous private development proposals impacting our network assets. This consistently higher level of activity has been forecast to continue into the next Access Arrangement Period with many programs and projects set to continue post 2017.

Table 13 – Actual customer contributions and variance against AER's Final Decision (\$M, Real 2017)

	2013	2014	2015	2016*	2017*	TOTAL*
Final Decision	(12.7)	(4.7)	(1.8)	(1.8)	(1.8)	(22.7)
Actual Customer Contributions - Major Relocation Works	(3.7)	(4.5)	(3.6)	(10.5)	(13.7)	(36.1)
Actual Customer Contributions - Other	(2.4)	(2.3)	(2.7)	(1.4)	(1.5)	(10.3)
Variance (Actual – Final Decision)	(6.7)	2.0	4.6	10.2	13.5	23.6

* = Estimate

⁶ Oakley Greenwood, Prudency and Efficiency of Mains Replacement and Connection Capex, November 2016, p.12

⁷ Oakley Greenwood, Prudency and Efficiency of Mains Replacement and Connection Capex, November 2016, p.24



6. Expenditure forecasting method for forthcoming period

This section explains and justifies our method of forecasting Residential and C&I Connections capex and customer contributions for the next access arrangement period.

We have adopted two methods for forecasting customer connection capex:

- Unitised job forecast – For Tariff V connections.
- Historical average expenditure – For Tariff D connections.

6.1. Tariff V – Unitised Jobs

As detailed in section 4.7, we undertake most of our new customer connections by delivering “unitised jobs”, rather than by delivering a single consolidated project. Each customer connection therefore comprises a series of unitised jobs. We assign a three-letter Activity Code to each type of unitised job. Each unitised job has a standard cost, or unit rate that has been agreed with our competitively contracted service providers, Comdain and ZNX. For Tariff V connections, we do not individually cost unitised jobs for a new connection (i.e. all costing is standardised based on unitised jobs).

We forecast our Tariff V Residential and C&I Connections capex and our resulting customer contributions in three steps. We:

1. Forecast our Residential and C&I Connections capex volumes;
2. Apply contracted unit rates for 2016-17 and real cost escalations to our forecast volumes; and
3. Forecast customer contributions.

We discuss each of these steps in turn.

6.1.1. Step 1 – Forecast Residential and C&I Connections volumes

The first step in forecasting our Residential and C&I Connections capex is to determine our volumes of unitised jobs.

Our forecast volumes are the count of unitised jobs by Activity Code that are initiated each year.

We forecast these volumes based on the number of unitised jobs that have been undertaken over the last two to three years (depending on data availability) for each Activity Code and apply growth indices to forecast the number of projects for each Activity Code over the next access arrangement period.

We determine the growth indices for each Activity Code based on indices that are prepared annually by the Australian Construction Industry Forum (ACIF). The ACIF Melbourne forecast provides an economic/industry growth forecast at a more granular level and at wider areas than our supply area. This enables us to include the influence of activities in the surrounding areas that will impact our Residential and C&I Connections capex in the future. Figure 2 and Figure 3 show that there is a strong relationship between the ACIF index and our capex over the previous and current access arrangement periods.

Figure 2: Relationship between ACIF index and Residential Connections capex

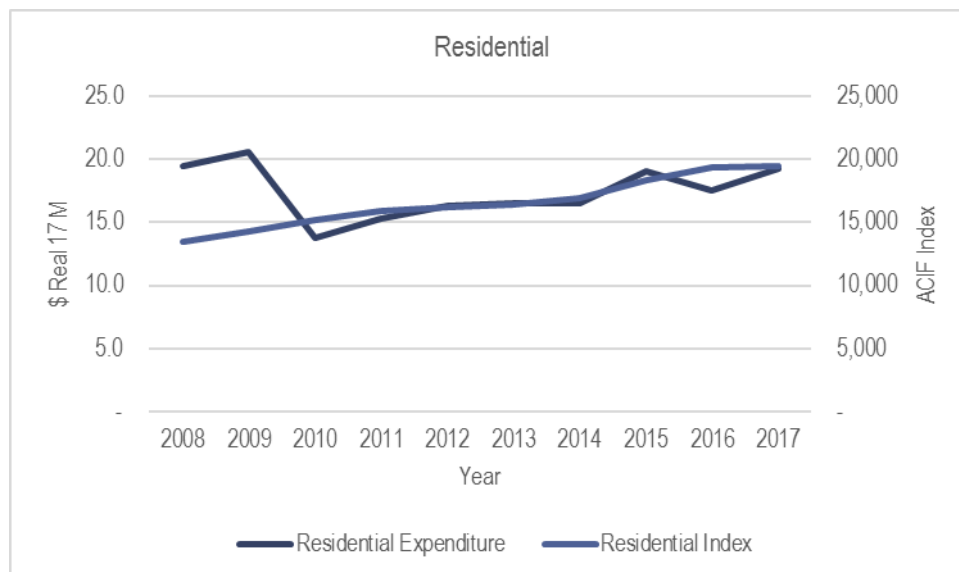
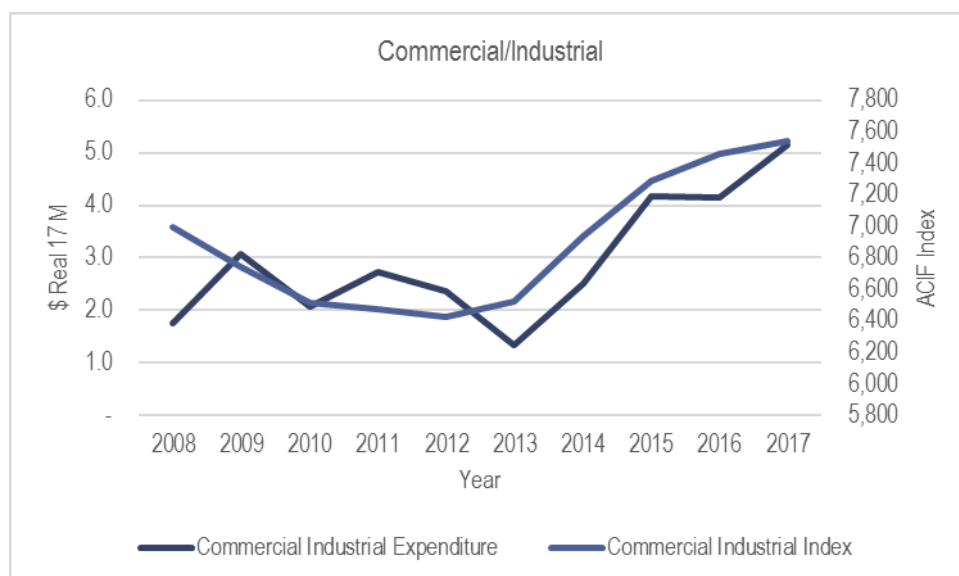


Figure 3: Relationship between ACIF index and C&I Connections capex



Unitised jobs have lives of less than 12 months. This means that, for the purposes of forecasting our annual Residential and C&I Connections capex, there is not a need to be concerned with the lifecycle of undertaking unitised jobs, such as:

- When they commence within a year;
- The profile of expenditure incurred over the course of a year; and
- The status of incomplete unitised jobs at the end of a year.

We prepare our volume forecasts in a forecasting model in Microsoft Excel spreadsheet format that we have provided to the AER with this Overview Document.

The key output from this stage 1 is a forecast of our Residential and C&I Connections capex volumes for our unitised jobs for each year of the next access arrangement period, 2018 to 2022.

6.1.2. Step 2 – Apply contracted unit rates and real cost escalations

We multiply the forecast of our Residential and C&I Connections capex volumes for our unitised jobs by our:



- Standardised unit rates for each unitised job that we have contractually agreed with our competitively-sourced Service Providers, Comdain and ZNX; and
- Real labour cost escalations. We have applied zero real material cost escalations.

Our standardised unit rates for each unitised job are sourced from our current OMSAs with our Service Providers. These rates are the best we have available for developing our capex forecasts given that they are market-tested through the establishment of the OMSAs under competitive arrangements. They are our 2016-17 rates that are based on the actual outturn costs (AOC) that we incurred from 1 July 2015 to 30 June 2016.

We derive our annual OMSA rates using the prescribed OMSA budget setting process. Under the agreements, the OMSA rates are applied to the forecast volumes to determine the target outturn costs (TOC).

We reimburse our service providers for their actual costs during the year, which must conform to the cost reimbursement rules under the OMSA – we refer to this as Limb 1. We also pay a contribution fee – that we refer to as Limb 2 – that is an agreed mark-up on Limb 1 costs. Together, Limb 1 and Limb 2 comprise our AOC.⁸

The AOC are considered during the budget setting process to develop the following year's OMSA rates (and therefore the TOC, having regard to the volumes). This process is largely finalised by March each year and applies from 1 July the same year (i.e. on a financial year basis). The OMSAs incentivise our service providers to achieve the lowest sustainable cost of service provision and, in this way, the target (TOC) and actual (AOC) costs converge over time.

The standardised unit rates that we have applied in forecasting our Residential and C&I Connections capex are therefore the OMSA rates for 2016-17.

Once we have applied our OMSA unit rates for 2016-17 to our forecast volumes we then apply our forecast real labour cost escalations over the remainder of the access arrangement period. Our AAI explains and justifies these escalators, which we have also applied to our other capex and opex categories.

At the completion of this step 2 we have a Residential and C&I Connections capex forecast by unitised job, which we aggregate to determine our annual Residential and C&I Connections capex forecasts for the forthcoming access arrangement period.

6.1.3. Step 3 – Forecast customer contributions

In this step 3, we forecast our customer contributions by Activity Code. As noted in section 1, one component of our customer contributions is the major asset relocations that our customers (including the Victorian Government) ask us to undertake as part of large infrastructure projects.

Our customer contributions comprise only cash contributions – we do not have any gifted assets.

We forecast our customer contributions based on the historical trend in our customer contributions in recent years. We consider this to be the most accurate and justifiable basis for forecasting our future customer contributions.

We deduct our forecast customer contributions from our gross capex forecast for our Pipeline Services to determine our net capex forecasts for our Pipeline Services.

6.2. Tariff D

Given the low volume and unique nature of Tariff D connections, we have forecast this category of connection based on our historical expenditure. This is consistent with the AER's approach to forecasting capex for this connection type for the current access arrangement period.

⁸ There is also a "Limb 3" in our OMSAs, but this is assumed to be zero for the purposes of our unit cost forecasts.



6.3. Impact of our Marketing Step Change

We have included a marketing step change in our Opex forecast for the forthcoming access arrangement period. This is explained in our Access Arrangement Information and in our Opex Overview Document.

Our proposed marketing step change only impacts our forecast Residential connections capex for the forthcoming access arrangement period. This is shown in Table 14 and equates to 1,405 additional residential connections over the period or an additional 281 residential connections per annum.

The marketing step change will not impact C&I connections.

Table 14 – Impact of Marketing Step Change on Residential connections for the forthcoming access arrangement period.

	2018	2019	2020	2021	2022	TOTAL
Gross Residential Connections – No Marketing	8,633	8,173	7,741	7,888	8,169	40,604
Gross Residential Connections – with Marketing	8,914	8,454	8,022	8,169	8,450	42,009
Marketing Impact (Difference)	281	281	281	281	281	1,405

We have calculated the impact of the marketing step change on our capex forecast by applying the implied unit rate per residential connection – as derived from the forecast of unitised jobs in Section 6.1 – by the forecast annual number of additional connections (i.e. 281 per annum).

Table 15 shows the impact of our proposed marketing step change on our gross residential connections capex forecast for the forthcoming access arrangement period.

Table 15 – Forthcoming access arrangement period Residential and C&I Connections capex (\$M, Real 2017)

	2018	2019	2020	2021	2022	TOTAL
Gross Residential Connection – No Marketing	19.3	18.2	17.3	17.7	18.3	90.8
Gross Residential Connection – with Marketing	19.9	18.9	17.9	18.3	19.0	94.0
Marketing Impact (Difference)	0.6	0.6	0.6	0.6	0.6	3.1

6.4. Top-down validation of our Connections capex forecast

We have undertaken a top-down review of our connection capex forecast to validate our forecasts.

Figure 4 shows that our forecast unit rates for residential connection are consistent with our actual unit rates for these connections over 2013 to 2015.



Figure 4: Residential Connection – Unit Rate Analysis

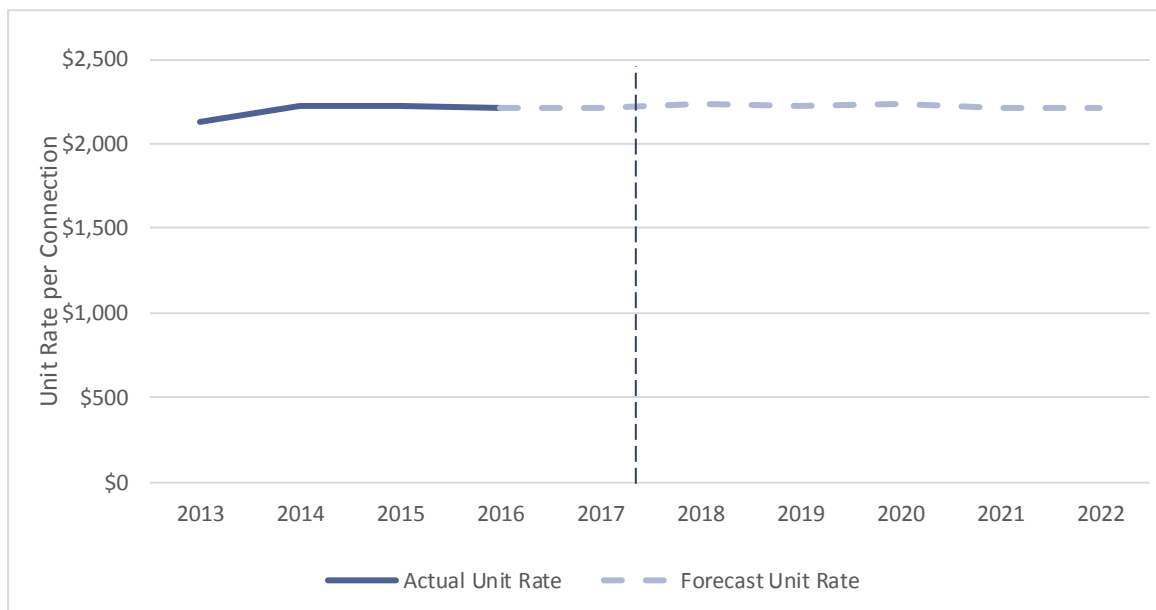
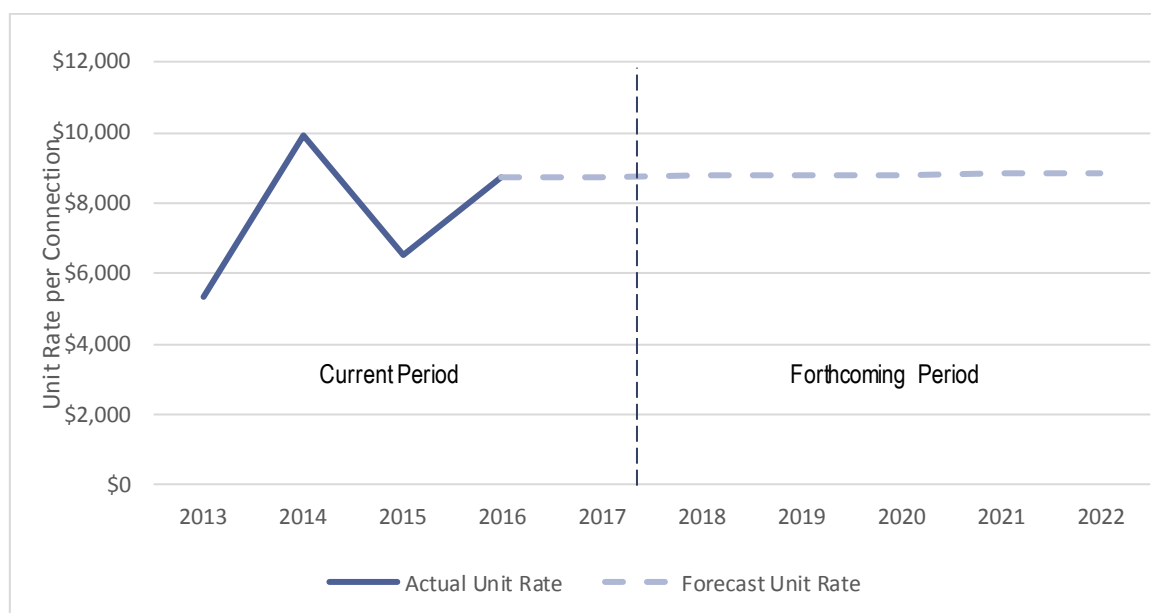


Figure 5 shows that our forecast I&C connection unit rates are also consistent with our actual unit rates for 2013 to 2015, noting there has been significant variation in our actual unit rates because of differences in the nature and complexity of our connection.

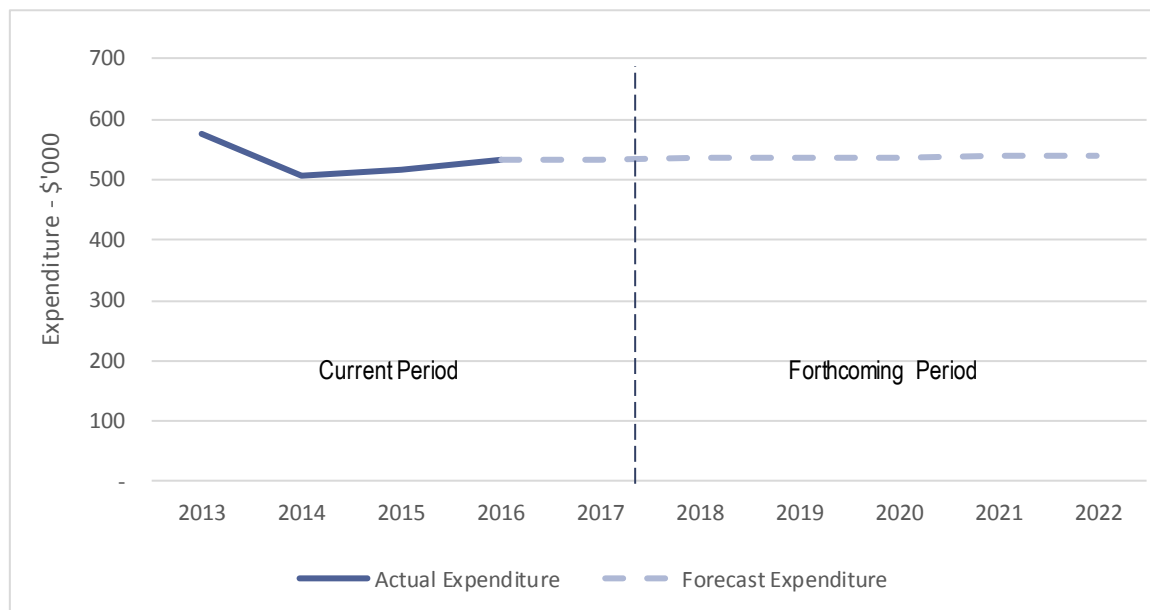
Figure 5: I&C Connections – Unit Rate Analysis.



We have derived our Tariff D connection capex forecasts based on the three-year average from 2013 to 2015, as shown in Figure 6.



Figure 6: Tariff D – Actual v Forecast expenditure



6.5. Justification of our expenditure forecasting method

We consider that our proposed expenditure forecasting method is the best available method of forecasting our Residential and C&I Connections capex because it:

- Produces forecasts that are in line with our actual (and estimated) capex for the current access arrangement period. We estimate that our average annual Residential and C&I Connections capex for the current access arrangement period will be \$21.2 million and our forecast average annual Residential and C&I Connections capex for the forthcoming access arrangement period is \$23.1 million;
- Is consistent with the approach that we applied in our AAI for the current access arrangement period to forecast our Residential and C&I Connections capital expenditure;
- Is based on trend analysis and benchmarking, which is consistent with the AER's historical approach to assessing Residential and C&I Connections capex;
- Is based on ACIF growth indices, which historically show a strong relationship to our historical connections capex;
- Uses our most current unit rates for our unitised jobs, which we have sourced from our service providers Comdain and ZNX through market-tested, competitive processes;
- Forecasts customer contributions consistent with both our "Multinet Gas Customer Contribution Policy" and the ESCV's Gas Distribution System Code. This is consistent with the current practice that normal residential connections are not subject to the EFT;
- Is the same method that we recently used to forecast our Connections capex for our sister business United Energy in its recent Regulatory Proposal and Revised Regulatory Proposal. The AER accepted the forecasts for United Energy in full in both its Draft and Final Distribution Determinations; and
- Is validated by a top-down check of our bottom-up forecast. This top-down check is based on forecast connections, whereas our bottom-up forecast is based on unitised jobs.



7. Capex forecasts for forthcoming period

This section details our forecast Residential and C&I Connections capex and customer contributions for the forthcoming access arrangement period.

7.1. Forecast Residential and C&I Connections capex

Table 16 details our forecast Residential and C&I Connections capex for the forthcoming access arrangement period. Our forecast average annual Connections capex is \$23.1 million (including \$0.7 million per annum for our Marketing Step change), which compares to our estimated average annual Connections capex of \$21.2 million in the current access arrangement period.

Table 16 – Residential and C&I Connections capex (\$M, Real 2017)

		2018	2019	2020	2021	2022	TOTAL
AAI Proposal	Residential	19.3	18.2	17.3	17.7	18.3	90.8
	C&I	4.2	4.2	4.3	4.4	4.4	21.6
	Total	23.5	22.4	21.6	22.1	22.7	112.4
AAI Proposal with marketing	Residential	19.9	18.9	17.9	18.3	19.0	94.0
	C&I	4.2	4.2	4.3	4.4	4.4	21.6
	Total	24.1	23.1	22.3	22.8	23.4	115.6

7.2. Forecast Customer Contributions

As discussed in section 6, we have forecast our customer contribution revenue to be consistent with both:

- Our “Multinet Gas Customer Contributions Policy”; and
- The ESCV’s Gas Distribution System Code.

Table 17 details our customer contributions forecast for the forthcoming access arrangement period. Our forecast of our average annual customer contributions of \$9.1 million compares with our estimated average annual customer contributions of \$9.2 million in the current access arrangement period.

Table 17 – Customer Contributions (\$M, Real 2017)

	2018	2019	2020	2021	2022	TOTAL
Actual Customer Contributions – Major Relocation Works	(7.1)	(7.1)	(7.1)	(7.1)	(7.1)	(35.6)
Actual Customer Contributions – Connections	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(10.0)
Actual Customer Contributions – Total	(9.1)	(9.1)	(9.1)	(9.1)	(9.1)	(45.6)



8. Meeting Rules' requirements

This section explains and justifies our Residential and C&I connections capex forecast against the new capital expenditure criteria set out in Rule 79. It demonstrates that our Residential and C&I connections capex forecast is conforming capital expenditure which should be approved by the AER as part of its final decision for our forthcoming access arrangement period.

8.1. The new capital expenditure criteria

Rule 79 defines the new capital expenditure criteria as follows:

- (1) Conforming capital expenditure is capital expenditure that conforms with the following criteria:
 - (a) the capital expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services;
 - (b) the capital expenditure must be justifiable on a ground stated in subrule (2).
- (2) Capital expenditure is justifiable if:
 - (a) the overall economic value of the expenditure is positive; or
 - (b) the present value of the expected incremental revenue to be generated as a result of the expenditure exceeds the present value of the capital expenditure; or
 - (c) the capital expenditure is necessary:
 - (i) to maintain and improve the safety of services; or
 - (ii) to maintain the integrity of services; or
 - (iii) to comply with a regulatory obligation or requirement; or
 - (iv) to maintain the service provider's capacity to meet levels of demand for services existing at the time the capital expenditure is incurred (as distinct from projected demand that is dependent on an expansion of pipeline capacity); or
 - (d) the capital expenditure is an aggregate amount divisible into 2 parts, one referable to incremental services and the other referable to a purpose referred to in paragraph (c), and the former is justifiable under paragraph (b) and the latter under paragraph (c).
- (3) In deciding whether the overall economic value of capital expenditure is positive, consideration is to be given only to economic value directly accruing to the service provider, gas producers, users and end users.
- (4) In determining the present value of expected incremental revenue:
 - (a) a tariff will be assumed for incremental services based on (or extrapolated from) prevailing reference tariffs or an estimate of the reference tariffs that would have been set for comparable services if those services had been reference services; and
 - (b) incremental revenue will be taken to be the gross revenue to be derived from the incremental services less incremental operating expenditure for the incremental services; and
 - (c) a discount rate is to be used equal to the rate of return implicit in the reference tariff.
- (5) If capital expenditure made during an *access arrangement period* conforms, in part, with the criteria laid down in this rule, the capital expenditure is, to that extent, to be regarded as conforming capital expenditure.



- (6) The AER's discretion under this rule is limited.

8.2. How the forecast meets the new capital expenditure criteria

The information presented in this Overview Document and its supporting documents demonstrates that our proposed Residential and C&I connections capex is consistent with a prudent service provider, acting efficiently and in accordance with good industry practice to achieve the lowest sustainable cost of providing services, as required by Rule 79(1). In particular, the proposed forecast capex is necessary to comply with the following provisions of the National Gas Rules:

- Rule 79(2)(c)(iii) – Our proposed capex is necessary to comply with our regulatory obligations associated with providing our connection services. These obligations are set out in section 4.1 above and include a requirement for us to connect “a customer that resides within the minor or infill extension area on fair and reasonable terms and conditions”⁹; and
- Rule 79(2)(c)(iv) – Connections are initiated by, and are carried out at the request of, our customers. Our proposed capex is necessary to maintain our capacity to meet the demand for our services at the time the connections are requested. In effect, this means that we can connect customers to our gas distribution network as they apply for connection.

We develop our Connections capital expenditure forecast using the four step method set out in section 6. Section 6.5 explains why we consider this is the best available forecasting method and results in forecast capex that satisfies the new capital expenditure criteria in Rule 79 of the NGR. Our forecast:

- Produces forecasts that are in line with our actual (and estimated) capex for the current access arrangement period. We estimate that our average annual Residential and C&I Connections capex for the current access arrangement period will be \$21.2 million and our forecast average annual Residential and C&I Connections capex for the forthcoming access arrangement period is \$23.1 million;
- Is consistent with the approach that we applied in our AAI for the current access arrangement period to forecast our Residential and C&I Connections capital expenditure;
- Is based on trend analysis and benchmarking, which is consistent with the AER's historical approach to assessing Residential and C&I Connections capex;
- Is based on ACIF growth indices, which historically show a strong relationship to our historical connections capex;
- Uses our most current unit rates for our unitised jobs, which we have sourced from our service providers Comdain and ZNX through market-tested, competitive processes;
- Forecasts customer contributions consistent with both our “Multinet Gas Customer Contribution Policy” and the ESCV's Gas Distribution System Code. This is consistent with the current practice that normal residential connections are not subject to the EFT;
- Is the same method that we recently used to forecast our Connections capex for United Energy in its recent Regulatory Proposal and Revised Regulatory Proposal. The AER accepted the forecasts for United Energy in full in both its Draft and Final Distribution Determinations; and
- Is validated by a top-down check of our bottom-up forecast. This top-down check is based on forecast connection, whereas our bottom-up forecast is based on unitised jobs.

Given the above, our proposed Residential and C&I connections capital expenditure forecast for the 2018 to 2022 access arrangement period is consistent with the National Gas Objective, in that it promotes efficient investment in natural gas services that is in the long term interests of consumers in terms of price, quality, safety, reliability and security of supply of natural gas services.

⁹ Clause 3.1(c)



9. Supporting documentation

The following documents support our Residential and C&I Connections capex forecast for the forthcoming access arrangement period.

Asset Management System Policies, Plans and Strategies

Multinet Gas Customer Contributions Policy

Capital Growth Plan

Models and supporting documents

Connections capex model

Expert Consultant Documents

Australian Construction Industry Forum (ACIF) report

Oakley Greenwood, Prudency and Efficiency of Mains Replacement and Connection Capex, November 2016



Glossary

Abbreviations	
ACIF	Australian Construction Industry Forum
AER	Australian Energy Regulator
AOC	Actual outturn costs
Capex	Capital expenditure
C&I	Commercial and Industrial
Code	The ESCV's Gas Distribution System Code
EFT	Economic Feasibility Test
ESCV	Essential Services Commission of Victoria
LCTA	Least Cost Technically Acceptable
M	Millions
NGR / Rules	National Gas Rules
NIEIR	National Institute of Economic and Industry Research
OMSA	Operational and Management Services Agreements
Opex	Operating expenditure
RIN	Regulatory Information Notice
TOC	Target outturn costs



Attachment 1 – Allocation of Asset Costs between Capex Categories

		Capital Allocations							
Expenditure Category		Transmission & Distribution Mains	Services	Cathodic Protection	Meters ¹⁰	Supply Regulators / Valve Stations	SCADA	IT Systems	Other
Mains Replacement	Planned and reactive replacement of distribution mains	Yes: 1. LP to HP replacement 2. MP replacement 3. Early Generation High Density Polyethylene pipe replacement 4. Reactive mains replacement.	Yes: 1. Where of a suitable standard reconnecting service after mains replacement 2. Replacement as part of the mains replacement program 3. Unplanned services renewal (i.e. ~\$1m pa) – not related to proactive Mains Replacement programs	No	No	Yes, installation of new supply regulators and valves	No	No	No
	Customer Connections	Residential and C&I Connections	Yes, installation or extension of mains related to a new connection	Yes, installation of new service	No	Yes, purchase of new meters and installation of meters for new connections (excluding as part of the digital meter trial). (Note – purchases of new meters were previously part of Meters Capex.)	No	No	No

¹⁰ For the purposes of capital allocation Meters is inclusive of the consumer service regulator.



		Capital Allocations							
Expenditure Category		Transmission & Distribution Mains	Services	Cathodic Protection	Meters ¹⁰	Supply Regulators / Valve Stations	SCADA	IT Systems	Other
Meters Replacement	Planned and unplanned replacement of existing metering fleet	No	No	No	Yes, purchase of new meters: 1. to replace a failed meter; 2. to seed the time-expired meter program; and 3. for digital meter trial	No	No	No	No
Augmentation	Project to increase the capacity of the network	Yes, demand related mains augmentation	No	No	No	Yes, demand related regulator augmentation	No	No	No
Information Technology	-	No	No	No	No	No	No	Yes, complete IT program	No
SCADA	-	No	No	No	Yes, for vortex flow meter installations associated with supply regulators	No	Yes, complete SCADA program	No	No
Other capex	Supply Regulators – Replacement	No	Fire valve program	No	No	Yes, 1. integrity related supply regulator upgrades 2. Network valve repayment	No	No	No



		Capital Allocations							
Expenditure Category		Transmission & Distribution Mains	Services	Cathodic Protection	Meters ¹⁰	Supply Regulators / Valve Stations	SCADA	IT Systems	Other
	Network Valves	No	No	No	No	Yes, All network valve programs	No	No	No
	Recoverable works	Various, assets created depend on project							
	Corrosion Protection	No	No	Yes, complete CP program	No	No	No	No	No
	Services / Meters	No	No	No	No	No	No	No	No
	Gas Heaters	No	No	No	No	Yes, installation / replacement of heating installations	No	No	No
	Pigging Capex	Yes, Non-piggable pipeline alteration program	No	No	No	No	No	No	No



Attachment 2 – Three-letter Activity Codes for Residential and C&I Connections Capex

We categorise our Residential and C&I Connections capex into three-letter Activity Codes. These three-letter Activity Codes relate to our unitised jobs.

1. Residential Connection

Three-Letter Code	Project Description	Scope
CGA	EXISTING DOM MAINS EXTENSION	Excavation, pipelaying, bedding material, back fill and testing of a new gas main in existing domestic, established urban area. Allow for supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% are 50mm NB PE
CGB	MAINS TIE IN - EXISTING DOM	Mains tie in - Existing domestic/residential area, including commissioning and purging. Allow for supply of all materials (including pipe), any 3rd party approval and reinstatement. 90% are 100mm NB PE to PE or steel main.
CVS	INSTALL GAS METER ≤8M3	Install a meter up to and including ≤8m3. The regulator must be adjusted for lock up & flow pressures, the meter purged of air with the appropriate regulator and associated fittings and isolated with a green blind washer/spade in the outlet of the meter. The installation must be left in a safe gas type manner and ready for correct operation All meter & regulator details are to be recorded
CWD	NEW DOMESTIC SERVICE - COMPLEX	Construct new domestic service to High Pressure standard. For services greater than 25m and/or of a complex nature i.e.. Higher levels of traffic management, deep mains, substantial reinstatement, rocky or difficult terrain, difficult meter position access, substantial boring Allow for supply of all materials (including pipe), any 3rd party approval, boring and reinstatement.
CWE	TRUNK SERVICE EXTENSION	Construct an extension to an existing gas trunk service. Allow for tie in to existing service, supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% are 50mm NB PE.
CWH	NEW SERVICE HP	Construct new service 10 mm to 63 mm. Allow for supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% are 10 -25mm NB PE to High Pressure standard.
CWL	NEW SERVICE LP	Construct new Low Pressure service 25 mm to 63 mm. Allow for supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% are 25mm NB PE.
CWS	NEW SERVICE LP TO HP STANDARD	Construct new Low Pressure service 25 mm to 63 mm. Allow for supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% are 25mm NB PE to High Pressure standard.
CWT	NEW TRUNK SERVICE	Excavation, pipelaying, bedding material, back fill and testing of a new trunk service in existing domestic, established urban area up to 100 mm NB PE. Allow for supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% are 50mm NB PE.



Three-Letter Code	Project Description	Scope
CZA	NEW DOMESTIC SUBDIVS MAINS EXT	Excavation, pipelaying, bedding material, back fill and testing of a new gas main in a new residential subdivision/estate up to 100 mm NB PE. Allow for: Supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% are 50mm NB PE
CZB	MAINS TIE IN - NEW DOM	Mains tie in - New residential subdivision/estate, including purging and commissioning. Allow for: Supply of all materials (including pipe), any 3rd party approval and reinstatement. 90% are 100mm NB PE to PE or steel main.

2. C&I Connections

Three-Letter Code	Project Description	Scope
CAB	SR - AL425 WITH DIVAL REG	Install single run industrial & commercial regulator assembly AL425 meter with Dival Regulator - as per standard drawing. Works associated with the construction, installation and commissioning of new large metering installations. Usually initiated by retailer request.
CAC	SR - AL1000 WITH DIVAL/REL REG	Install single run industrial & commercial regulator assembly AL1000 meter with Dival or Reliance Regulator - as per standard drawing. Works associated with the construction, installation and commissioning of new large metering installations. Usually initiated by retailer request.
CAD	SR - AL1400-DIVAL/REL/DON REG	Install single run industrial & commercial regulator assembly AL1400 meter with Dival HP, Donkin LP (with or without bypass) or Reliance MP/HP Regulator - as per standard drawing. Works associated with the construction, installation and commissioning of new large metering installations. Usually initiated by retailer request.
CAE	SR - AL2300-DIVAL/REL/DON REG	Install single run industrial & commercial regulator assembly AL2300 meter with Dival MP/HP, Donkin LP (with or without bypass) or Reliance MP/HP Regulator - as per standard drawing. Works associated with the construction, installation and commissioning of new large metering installations. Usually initiated by retailer request.
CAF	SR - AL15000-DIVAL/REL/DON REG	Install single run industrial & commercial regulator assembly AL5000 meter with Dival MP/HP, Donkin LP (with or without bypass) or Reliance MP/HP Regulator - as per standard drawing. Works associated with the construction, installation and commissioning of new large metering installations. Usually initiated by retailer request.
CAG	ADD. PIPEWORK M/ROOM SM INST	Install additional custom Pipework for industrial & commercial regulator assembly (constructed from Standard Drawing) in gas meter room. One off design. Works associated with the design construction, installation and commissioning of additional Piepwork for Standard metering installations. Usually initiated by retailer request. Assume small apartment /office building/retail building with bulk hot water and hot plates only. Do not include cost of Standard Regulator Assembly from Standard Drawing (as identified above).



Three-Letter Code	Project Description	Scope
CAH	Install Regulator Assembly Additional Pipework for Meter Room - medium installation	Install additional custom Pipework for industrial & commercial regulator assembly (constructed from Standard Drawing) in gas meter room. One off design. Works associated with the design construction, installation and commissioning of additional Piepwork for Standard metering installations. Usually initiated by retailer request. Assume medium sized apartment /office building/retail building with bulk hot water, hot plates and minimal metered tenancies. Do not include cost of Standard Regulator Assembly from Standard Drawing (as identified above).
CAJ	Install Regulator Assembly Additional Pipework for Meter Room - large installation	Install additional custom Pipework for industrial & commercial regulator assembly (constructed from Standard Drawing) in gas meter room. One off design. Works associated with the design construction, installation and commissioning of additional Piepwork for Standard metering installations. Usually initiated by retailer request. Assume large apartment /office building/retail building with bulk hot water, hot plates and multiple metered tenancies. Do not include cost of Standard Regulator Assembly from Standard Drawing (as identified above).
CAK	Install Regulator Assembly - Dual Run - Low Pressure - Diaphragm Meter (load up to 140 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with low pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 140 Sm ³ /hr. Assume diaphragm meter. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAL	Install Regulator Assembly - Dual Run - Low Pressure - Roots Meter (load up to 445 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with low pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 445 Sm ³ /hr. Assume Roots series meter and Donkin 226 Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAM	Modification to Reg Assembly	Modification to industrial & commercial regulator assembly - standard drawing. Usually initiated by retailer request.
CAN	Install Regulator Assembly - Dual Run - Medium Pressure - Diaphragm Meter (load up to 310 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with medium pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 310 Sm ³ /hr. Assume Diaphragm type meter and Reliance type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAO	Install Regulator Assembly - Dual Run - Medium Pressure - Roots/Turbine Meter (load up to 558 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with medium pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 558 Sm ³ /hr. Assume Roots/Turbine series type meter and Reliance type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.



Three-Letter Code	Project Description	Scope
CAP	Install Regulator Assembly - Dual Run - Medium Pressure - Roots/Turbine Meter - Fisher Regulators (load up to 1,100 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with medium pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 1,100 Sm ³ /hr. Assume Roots/Turbine series meter and Fisher 298 type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAQ	Install Regulator Assembly - Dual Run - High Pressure - Diaphragm Meter - Reliance Type Regulators (load up to 300 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with High pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 300 Sm ³ /hr. Assume Diaphragm meter and Reliance type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAS	Install Regulator Assembly - Dual Run - High Pressure - Diaphragm Meter - Rockwell/Dival Type Regulators (load up to 293 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with High pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 293 Sm ³ /hr. Assume Diaphragm meter and Rockwell/Dival type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAT	Install Regulator Assembly - Dual Run - High Pressure - Diaphragm Meter - Fisher 99/298 Type Regulators (load up to 450 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with High pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 450 Sm ³ /hr. Assume Diaphragm meter and Fisher 99/298 type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAV	DR-HP-RM-REL.TYPREG <337SM ³ /HR	Install Dual Run Industrial & Commercial Regulator Assembly with High pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 337 Sm ³ /hr. Assume Roots series meter and Reliance type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAW	Install Regulator Assembly - Dual Run - High Pressure - Roots Meter - Fisher 99/298 Type Regulators (load up to 1,780 Sm ³ /hr)	Install Dual Run Industrial & Commercial Regulator Assembly with High pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 1,780 Sm ³ /hr. Assume Roots series meter and Fisher 99/298 type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.
CAY	DR-HP-TM-FISHER298RG<2835SM ³ /H	Install Dual Run Industrial & Commercial Regulator Assembly with High pressure inlet as per Multinet Dual Run Regulator Selection Guide EG-GM-4352 and Standard Drawings. Assume load up to 1,780 Sm ³ /hr. Assume Roots series meter and Fisher 99/298 type Regulators. Works associated with the construction, installation and commissioning of new large metering installations. Includes all civil activity including slab and enclosures. Usually initiated by retailer request.



Three-Letter Code	Project Description	Scope
CAZ	Install Regulator Assembly Additional Pipework for Meter Room - large complex installation	Install additional custom Pipework for industrial & commercial regulator assembly (constructed from Standard Drawing) in gas meter room. One off design. Works associated with the design construction, installation and commissioning of additional Piepwork for Standard metering installations. Usually initiated by retailer request. Assume large apartment /office building/retail building with bulk hot water, hot plates, multiple metered tenancies and Cogen/Trigen. Do not include cost of Standard Regulator Assembly from Standard Drawing (as identified above).
CFA	INDUSTRIAL & COMMERC MANS EXT	Excavation, pipelaying, bedding material, back fill and testing of a new gas main in an industrial and/or commercial area. Allow for supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% will be 100 mm NB
CFB	MAINS TIE IN - INDUSTRIAL & CO	Mains tie in - Industrial and commercial, including commissioning and purging. Allow for supply of all materials (including pipe), any 3rd party approval and reinstatement. 90% are 100mm NB to PE or steel main.
CRG	RELOCATE/RENEW SERVICES	Mains tie in - Industrial and commercial, including commissioning and purging. Allow for supply of all materials (including pipe), any 3rd party approval and reinstatement. 90% are 100mm NB to PE or steel main.
CVL	INSTALL GAS METER - AL425/MR12	Install a meter up to and including >8m ³ . The regulator must be adjusted for lock up & flow pressures, the meter purged of air with the appropriate regulator and associated fittings and isolated with a green blind washer/spade in the outlet of the meter. The installation must be left in a safe gas type manner and ready for correct operation. All meter & regulator details are to be recorded
CVM	INSTALL GAS METER - AL800	Install a meter up to and including >8m ³ – Type AL800. The regulator must be adjusted for lock up and flow pressures, the meter purged of air with the appropriate regulator and associated fittings and isolated with a green blind washer/spade in the outlet of the meter. The installation must be left in a safe gas type manner and ready for correct operation. All meter & regulator details are to be recorded
CVN	INSTALL GAS METER - AL1000	Install a meter up to and including >8m ³ – Type AL1000. The regulator must be adjusted for lock up & flow pressures, the meter purged of air with the appropriate regulator and associated fittings and isolated with a green blind washer/spade in the outlet of the meter. The installation must be left in a safe gas type manner and ready for correct operation. All meter & regulator details are to be recorded
CWC	NEW SERVICE I & C & COMPLEX	Construct new industrial or commercial service. Allow for supply of all materials (including pipe), any 3rd party approval, boring and reinstatement. 90% are 50mm NB PE.