Gas Access Arrangement Review
– Customer Capital Paper

Appendix 5C

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1 Document overview

1.1 Purpose

This document provides an overview and supporting commentary on the methodology adopted by SP AusNet in forecasting customer initiated capital expenditure for the fourth regulatory period (2013-17).

It should be read in conjunction with SP AusNet's Gas Asset Management Strategy (AMS 30-01) and Asset Management Plan (AMP 30-01).

The document is for use by:

- Internal staff and senior management; and
- Regulators - Economic, Technical and Safety.

1.2 Document Structure

This document is structured as follows:

- **Overview of Customer Initiated Capital Expenditure** – An overview of the drivers influencing customer initiated capital expenditure and the regulatory requirements governing customer connection to SP AusNet's distribution network.
- **Benchmarking Unit Rates** – A comparison between the applied benchmarks and actual unit rates for both residential and commercial connections for the current (third) regulatory period.
- **Customer Connection forecasts** – Forecast gross customer connections to 2017.
- **Unit Rate forecasting** – A review, with examples, of the two methodologies adopted by SP AusNet in forecasting customer capital expenditure to 2017.
- **Customer Expenditure Requirements 2012 to 2017** – A summary of SP AusNet's customer initiated capital expenditure requirements to 2017.

1.3 Scope

Within the scope of this document:

- SP AusNet's regulatory obligations under the Gas Distribution System Code and National Gas Rules;
- A comparison of SP AusNet's current performance against connection benchmarks (unit rates) in the current regulatory period;
- The methodologies adopted by SP AusNet in forecasting customer initiated capital expenditure;
- The drivers influencing SP AusNet's forecast of customer initiated capital expenditure; and
- Contingency calculation and rational.

Outside the scope of this document:

- Forecasting of customer contributions resulting from the connection to SP AusNet's distribution network;
- Detailed analysis of customer connection forecasts; and
- Detailed forecasting of project type unit rates (with the exception of project code (C-I-C): Supply Mains which has been included as an example for both forecasting methodologies)

1.4 Phasing and Financial Disclosure

All financial figures quoted within this document, including all historic and forecasted expenditure, unless otherwise specifically stated, have the following characteristics:

- Real Expenditure / Cost (reference year = 2011);
- Direct Expenditure only (i.e. excludes overheads and finance cost allocations);
- In units of $1,000 (i.e. $'000); and
- Before allowance for input (real) price escalation.

1.5 References

- AMS 30-01: Gas Asset Management Strategy
- AMP 30-01: Gas Asset Management Plan
- SP AusNet's 2013-2017 GAAR Submission Document
- CIE Demand Forecasting Report 2013-2017

2 Overview – Customer Initiated Capital Expenditure

2.1 Overview and Drivers

Customer initiated capital expenditure is required to connect new customers to the distribution network. This capital work typically includes the installation of new mains, the gas service pipe from the main to the meter, and the meter itself.

Customer expenditure is driven by two broad variables:

1. The number of connections to the network (Section 4, page 9); and
2. The cost per connection (Section 5, page 10).

SP AusNet has spent a considerable amount of time and effort in forecasting each variable to ensure forecasted expenditure is a true reflection of that required for the fourth regulatory period. This approach ensures compliance with National Gas Rules.

2.2 Regulatory Obligations – Gas Distribution System Code

SP AusNet connects new customers to its gas distribution network in accordance with the Gas Distribution System Code. The code specifies the minimum standards for connection and disconnection of customers to SP AusNet's distribution network. In summary, SP AusNet must, upon request and within specified time periods, connect a customer to the distribution network if it complies with regulatory requirements and do so on fair and reasonable terms[1].

2.3 Conforming Capital – National Gas Rules

The National Gas Rules (NGR) outlines the "capital expenditure criteria" which all capital expenditure on SP AusNet network must satisfy. Rule 79, part 2 states:

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).

SP AusNet's approach to forecasting customer initiated capital expenditure is consistent with these NGR requirements, specifically Rules 79(B), 79(C3), and 79(C4).

[1] Paraphrase from Section 3.1, Gas System Distribution Code, Version 9, page 4-5.

3 Benchmarking – Current Regulatory Period

For the current regulatory period (2008-2012), customer connections capital expenditure will exceed the regulatory benchmark as a result of:

- Higher than forecast connection rates in every year of the current Access Arrangement period (for example, in 2010 actual connections was 19,376 compared to a forecast of 14,688); and
- Unit rates have also been consistently higher (approximately 14% for residential and 6% for commercial / industrial – 2008 to 2011) than the benchmark allowances. This was due partly to market conditions creating greater cost pressures than was envisaged at the time of the last review and also due to the cuts to the proposed unit rates within the ESC's final decision for the current access arrangement period.

As a result, customer connection capital expenditure is expected to exceed the benchmark allowance by approximately 25% – 30% by the end of the current regulatory period.

A comparison of benchmark and actual, in terms of both forecast units and unit rates, is set out below in Figure 1 – Residential connections and Figure 2 – Commercial connections.

Please Note: Figures quoted in the below figures are of the form: real gross $2012, which is consistent with SP AusNet GAAR submission document but may not be comparable to other figures quoted within this document.

Figure 1: Residential Connection Benchmark Analysis

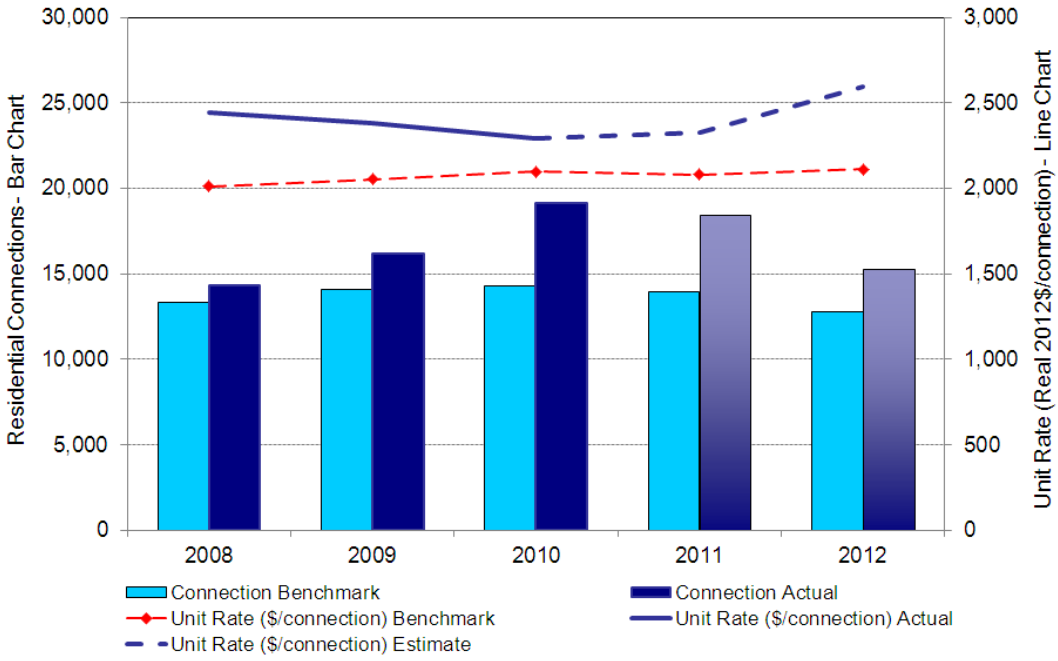
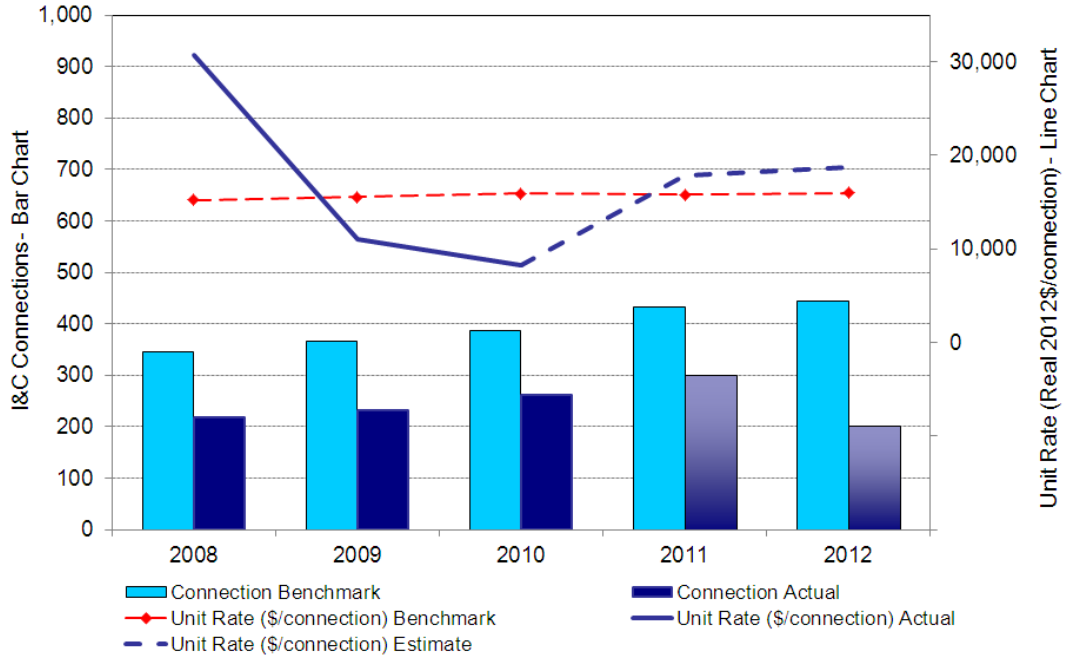


Figure 2: Commercial Connection Benchmark Analysis



Extending the comparison of residential connection benchmarks to include both the second (preceding) and third (current) regulatory periods (i.e. calendar years 2003 to 2012), it is noted that the per-connection benchmark has been maintained at close to $1,960[2] per annum for the two regulatory periods. This near flat benchmark has failed to appropriately compensate SP AusNet for the increased cost per residential connection which has averaged approximately $2,250 within the fourth regulatory period.

For commercial connections, a significant decrease from $18,401 (flat line) in the second regulatory period to $14,500 - $15,000 variable benchmark per connection in the third regulatory period was allowed for the by ESC. Actual unit rates over the period exhibited significant amounts of volatility in comparison to residential connection but also exceed benchmarks. A unit rate of approx. $15,800 per commercial connection has been achieved by SP AusNet to date within the fourth regulatory period.

[2] Benchmark for 3rd regulatory period (2003-2008) was $1,958 per connection (Real $2011). Benchmark from 4th regulatory period varied with price escalators reaching a maximum of $2,000 in 2012 (Real $2011). A slight decrease in benchmark was seen between the 3rd and 4th regulatory periods

4 Customer Connections

The first major driver for expenditure on customer capital is the number of new residential and non-residential connections to the network each year. It is the gross number of connections to SP AusNet's distribution network that drives customer capital expenditure.

To ensure that SP AusNet's forecasts of customer connections and gas demand are well-founded, an independent expert opinion has been obtained from the Centre for International Economics (CIE). As a whole, CIE is forecasting growth in net residential customer numbers (gross connections less abolishments) to reduce from the 3.1% p.a. witnessed over the current regulatory period, to 2.11% per annum over the fourth regulatory period.

SP AusNet has utilised the historical relationship between net and gross customer connections in its service area to convert the forecasts of average net customer connections provided by CIE, into a forecast of gross customer connections. Gross customer connections underpin SP AusNet's capital expenditure forecasts for customer connections.

Table 1 provides the growth forecast for customer connections for both residential and non-residential customers from 2012 to 2017. An average of approximately 15,500 gross connections is expected each year to 2017. In total, SP AusNet's customer base is expected to grow from approximately 603,300 customers in 2011 to 685,000 in 2017.

Table 1: Forecast Customer Growth

Growth Forecast	2012	2013	2014	2015	2016	2017
Gross Connections	15,512	15,573	15,579	15,530	15,450	15,467
Residential	15,310	15,354	15,345	15,288	15,202	15,211
Non-Residential	202	219	234	242	248	256
Abolishment	1,653	1,765	1,848	1,938	2,021	2,143
Residential	1,540	1,631	1,705	1,787	1,864	1,979
Non Residential	113	134	143	151	157	164
Net Connections	13,857	13,807	13,730	13,592	13,428	13,323
Residential	13,769	13,722	13,640	13,501	13,338	13,232
Non Residential	88	85	90	90	90	91

5 Unit Rate Forecasting

The cost of connecting a customer is the second major driver of customer initiated capital expenditure. This is highly influenced by the connection type (i.e. residential or commercial), the availability of labour and materials and the proximity of the connection to the existing distribution network[3]. SP AusNet has witnessed the following trends in the current regulatory period that apply upward pressure on per connection unit rates.

- Increased density of housing which flows onto increased labour costs per connection,
- Increased volume of infill connections or redevelopment (i.e. Footscray) and high density development applying pressure on labour costs (as above) and materials (namely reinstatement).
- Increased incidence of rocky ground conditions in urban growth areas (Hume and Melton) again applying upward pressure on labour costs.

An analysis of material and labour escalators for the fourth regulatory period has been conducted by SP AusNet. That analysis sits outside this discussion paper but should be considered in the determination of customer connection benchmarks for the fourth regulatory period.

As with all capital works on SP AusNet's network, the split between material and labour can vary significantly between the different types of customer initiated capital works. On average, the split between labour and material for customer initiated works is approximately (C-I-C)% labour and (C-I-C)% materials.

5.1 Management of Customer Capital Expenditure

SP AusNet manages it capital works program and expenditure through the use of "*Project Codes*" which essentially groups expenditure into different categories. Those applied for customer initiated capital is summarised in Table 2, page 11.

SP AusNet has utilised the same project codes in the forecasting of customer capital expenditure for the fourth regulatory period.

[3] SP AusNet is obligated by the Gas Distribution System Code to offer to connect new customers that are within 1 km of the existing network.

Table 2: Customer Capital Project Types

Project Code	Name	Description
(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	Supply Mains	Installation of large diameter gas mains (>63mm DN) used for the haulage of natural gas over large distances.
(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)

5.2 Forecasting Philosophy

SP AusNet has applied two approaches to forecasting customer capital expenditure for the fourth regulatory period.

1. Forecasting from the Regulatory Accounts, and
2. Forecasting from first principles.

Forecasting from the regulatory accounts has been adopted as the preferred method of forecasting customer expenditure as this approach ensures consistency with the methods adopted by the AER (and ESC) in the past, and is free of the varying assumptions (based on industry knowledge) inherent in forecasting from first principles.

Where possible, forecasting from first principles (i.e. a bottom up approach) has been used to validate forecasting outcomes from the regulatory accounts.

5.3 Forecasting Examples - Supply Mains

5.3.1 Forecasting from the Regulatory Accounts

Forecasting from the regulatory accounts utilises the historic spend and connection type allocations from the regulatory accounts to forecast expenditure through the use of an average unit cost per connection type. The data underpinning this approach (i.e. SP AusNet's annual regulatory accounts) is audited by an independent 3rd party and submitted to the AER annually.

The following example details the "*Regulatory accounts*" method for forecasting customer initiated expenditure. Forecasting of supply mains (project code (C-I-C)) has been used as an example. In summary:

> *Nominal expenditure from 2007 to 2011 is converted to real $2011 and split into residential and non-residential connection types based on the regulatory account allocations for each corresponding*

year. A weighted average unit rate (real $2011) is derived from the annual unit costs from 2007 to 2011, and applied to forecasted connections to 2017 to predict required capital expenditure.

A walkthrough of this process, including the definition of key variables, core calculations and final results is included in the following pages.

- **Key Variables**

SP AusNet's regulatory accounts is the sole source for all key historic variables, including historic customer connections (Table 3), capital expenditure (Table 4) and allocation splits between residential and commercial connection types (Table 5). In addition, forecast customer connections (Table 3) is obtained from SP AusNet's forecast of customer network connections for the fourth regulatory period (See section 4, page 9, for further details).

Table 3: Customer network connections

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Residential	14,726	17,069	18,016	19,115	18,446	15,310	15,354	15,345	15,288	15,202	15,211
Commercial	334	253	260	261	300	202	219	234	242	248	256
				Historic Connections ←		*→ Forecast customer connections (Section 4)*					

Table 4: Historic Spend – Supply Mains

	2007	2008	2009	2010	2011*
Nominal Spend ('000)	$2,481	$1,822	$2,083	$1,797	$2,237

* NB: Estimate from 2011 Regulatory Accounts

Table 5: Regulatory Account Allocations

	2007	2008	2009	2010	2011*
Residential	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
Commercial	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)

* NB: Estimate from 2011 Regulatory Accounts

- **Primary Calculations**

Nominal expenditure from Table 4 is converted to real $2011 (shown in Table 6), and split into residential and commercial connection types (shown in Table 7), based on regulatory account allocations in Table 5.

Table 6: Conversion to historic spend to real $2011

	2007	2008	2009	2010	2011
Nominal Spend	$2,481	$1,822	$2,083	$1,797	$2,237
Conversion Factor	1.113	1.093	1.041	1.028	1.000
Real $2011	$2,761	$1,991	$2,168	$1,847	$2,237

Table 7: Allocate Historic expenditure between residential and non-residential connection types.

	2007	2008	2009	2010	2011
Residential	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
Commercial	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
Total Expenditure	$2,761	$1,991	$2,168	$1,847	$2,237

The weighted average unit rate for supply mains (per residential and commercial connection) is calculated from the unit rates from 2007 to 2010 and estimate for 2011. A contingency is applied (see Section 5.4, page 18 for more information) to obtain the forecast unit rate.

Table 8: Calculation of weighted average unit cost

	2007	2008	2009	2010	2011	Weighted Average	Contingency	Forecast Unit Rate
Residential	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	$0.120	10%	$0.132
Commercial	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	$0.387	5%	$0.406

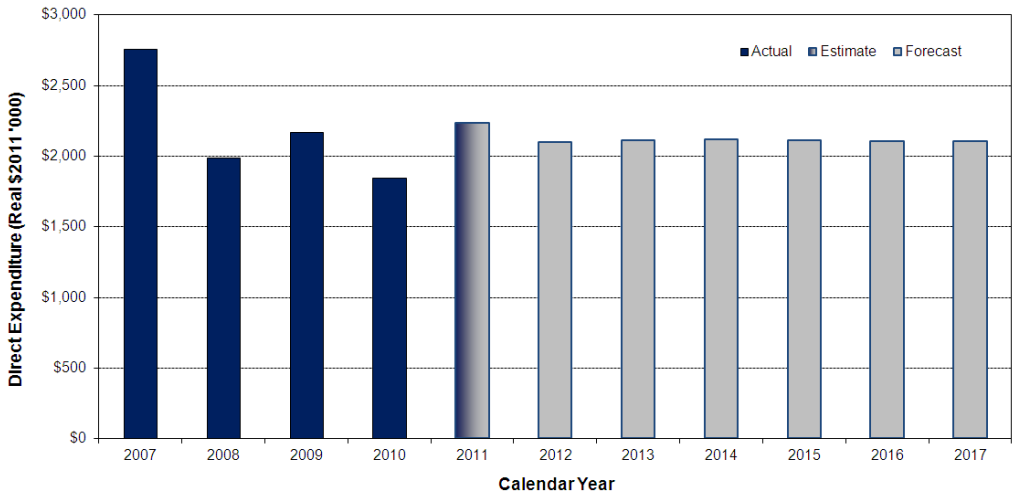
- **Results**

The derived forecast unit rates for residential and commercial connections are applied to connection forecasts to obtain expenditure requirements for supply mains to 2017.

Table 9: Total forecast Spend on Supply Mains – Residential / Commercial Split

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Residential	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	$2,016	$2,022	$2,021	$2,013	$2,002	$2,003
Commercial	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	$82	$89	$95	$98	$101	$104
Total Exp ('000)	$2,761	$1,991	$2,168	$1,847	$2,237	$2,098	$2,111	$2,116	$2,111	$2,103	$2,107
			Historic Spend ←		*Estimate*	*→ Forecast Spend*					

Figure 3: Supply Mains Forecasted Spend



5.3.2 Forecasting from First Principles

Forecasting from first principles is essentially a bottom-up build of required expenditure for the cost category in question. First principles differ to that of the regulatory accounts due to its detailed approach and the assumptions adopted during the forecasting process.

The following example details the '*First Principles'* method of forecasting customer initiated expenditure. Again, forecasting of supply mains (project code (C-I-C)) has been used as an example. In summary:

> *For Supply mains, forecasting by first principles involves calculating the length of mains required per customer connection, then multiplying this length by a standard unit rate to derive total expenditure. This expenditure is then split into residential and commercial connection types using historical weightings from the Regulatory Accounts*

A walkthrough of this process, including the definition of key variables, core calculations and final results is included in the following pages.

- **Key Variables**

In addition to the key variables obtained from the regulatory accounts (i.e. Historic customer connections, capital expenditure and connection type splits), high pressure network lengths were obtain from SP AusNet's annual ESV report and internal KPI's.

Table 10: Customer network connections (Repeat of Table 3, page 12)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Residential	14,726	17,069	18,016	19,115	18,446	15,310	15,354	15,345	15,288	15,202	15,211
Commercial	334	253	260	261	300	202	219	234	242	248	256
				Historic Connections ←		*→ Forecast customer connections (Section 4)*					

Table 11: Historic Spend – Supply Mains (Repeat of Table 4, page 12)

	2007	2008	2009	2010	2011*
Nominal Spend ('000)	$2,481	$1,822	$2,083	$1,797	$2,237

* NB: Estimate from 2011 Regulatory Accounts

Table 12: Regulatory Account Allocations (Adapted from Table 5, page 12)

	2007	2008	2009	2010	2011*	Weighted Average
Residential	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	95%
Commercial	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	5%

* NB: Estimate from 2011 Regulatory Accounts

Table 13: High Pressure Network Lengths

	2006	2007	2008	2009	2010	2011
High Pressure mains installed (km)	237.2	208.0	246.1	280.9	290.0	261.5
Network Augmentation (km)	5.1	2.0	5.0	0.6	6.3	3.6
Low Pressure Mains Replacement* (km)	73.1	56.4	69.3	59.6	67.4	65.4

* Assumed 90% efficiency from mains laid to decommissioned for LP mains replacement

- **Primary Calculations**

The length of supply mains per new customer connection is calculated in Table 14 below.

Table 14: Calculation of mains length per customer connection (new estates)

	2006	2007	2008	2009	2010	2011
High Pressure mains installed (km)	237.2	208.0	246.1	280.9	290.0	261.5
Minus Network Augmentation	*5.1*	*2.0*	*5.0*	*0.6*	*6.3*	*3.6*
*Minus Low Pressure Mains Replacement**	*73.1*	*56.4*	*69.3*	*59.6*	*67.4*	*65.4*
Growth related mains length (km)	159.0	149.5	171.7	220.7	216.3	192.5
*Gross network connections (New Estates)^*	*13,043*	*13,554*	*15,590*	*16,448*	*17,438*	*16,871*
Length per connection (m)	12.19	9.9	9.9	12.1	11.2	10.3
Weighted Average Length / Connection (m)	11.94					
Reticulation Mains	(C-I-C)					
Supply Mains#	(C-I-C)					

* Assumed 90% efficiency from mains laid to decommissioned for LP mains replacement

^ Approximately 90% of all new network connections are in new estates.

(C-I-C)

Note: It is assumed that all network growth is isolated to SP AusNet's high pressure network

The calculation of the weighted average unit rate is done by converting nominal spend per calendar year to real $2011 (shown in Table 15) and divided through by network growth attributed to new connections (shown in Table 16). A contingency is applied (see Section 5.4, page 18 for more information) to obtain the forecast unit rate.

Table 15: Conversion to historic spend to real $2011 (copy of Table 6, page 9)

	2007	2008	2009	2010	2011
Nominal Spend	$2,481	$1,822	$2,083	$1,797	$2,237
Conversion Factor	1.113	1.093	1.041	1.028	1.000
Real $2011	$2,761	$1,991	$2,168	$1,847	$2,237

Table 16: Calculation of a weighted average cost per metre of supply mains

	2007	2008	2009	2010	2011
Growth Related mains length - from Table 14	149.5	171.7	220.7	216.3	192.5
Proportion of Supply Mains (i.e. (C-I-C))	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
Historical Expense ('000) - from Table 15	$2,761	$1,991	$2,168	$1,847	$2,237
Unit Rate ($/m)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
Weighted Average Unit Rate	(C-I-C)				
Contingency	9.75% *				
Forecast Unit Rate ($/m)	(C-I-C)				

* Calculated based on weighted average spend on supply mains by residential and non-residential customers (i.e. 0.95 x 10% + 0.05 x 5% = 9.75%)

- **Results**

The required length of supply mains each year to 2017 is calculated based on the volume of gross network connections in new estates (using the average length of supply mains per connection derived in Table 14). This length is then multiplied by the forecast unit rate derived in Table 16 to determine the required capital expenditure.

Table 17: Total forecast Spend on Supply Mains

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
New Estate Connection	13,554	15,590	16,448	17,438	16,871	13,961	14,016	14,021	13,977	13,905	13,920
Supply Mains (km)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
Total Exp ('000)	$2,761	$1,991	$2,168	$1,847	$2,237	$2,117	$2,126	$2,127	$2,120	$2,109	$2,111

The allocation of expenditure between connection types is calculated using the expenditure profile from Table 12.

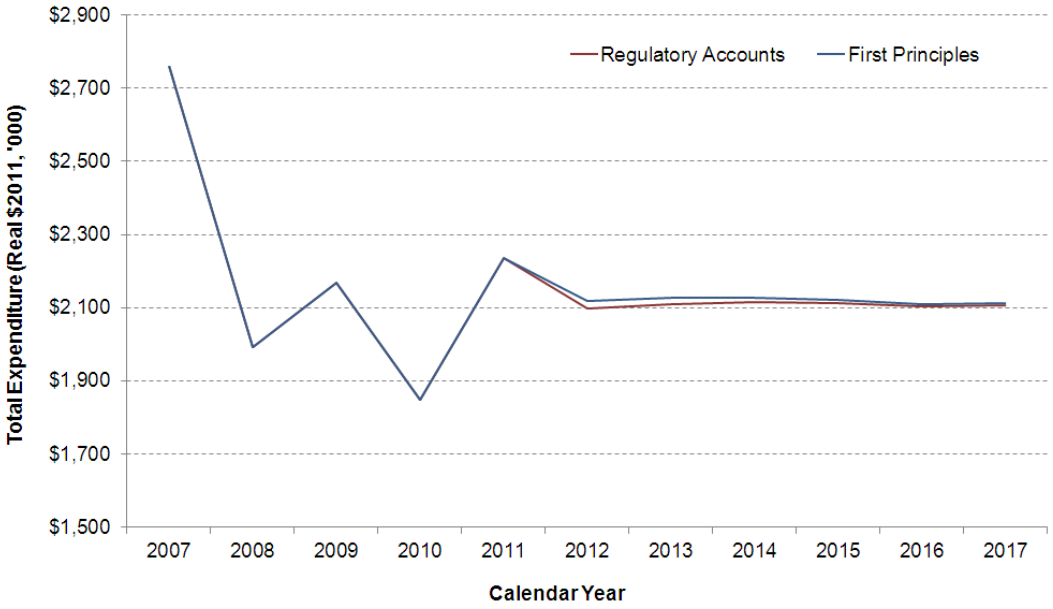
Table 18: Total forecast Spend on Supply Mains – Residential / Commercial Split

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Residential	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	2,013	2,020	2,021	2,015	2,005	2,007
Commercial	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	104.8	105.2	105.3	104.9	104.4	104.5
Total Exp ('000)	$2,761	$1,991	$2,168	$1,847	$2,237	$2,117	$2,126	$2,127	$2,120	$2,109	$2,111
			Historic Spend←		*Estimate*	*→ Forecast Spend*					

5.3.3 Comparison between forecasting methods

Through the use of the two methods, SP AusNet has managed to validate its expenditure forecasts for the fourth regulatory period. Figure 4 (below) demonstrates the small variance achieved by the two methods of forecasting customer initiated capital expenditure for Supply Mains.

Figure 4: Variance between forecasting methods – Supply Mains



For the remaining project codes, the variance when forecasting from first principles in comparison to the regulatory accounts is shown below in Table 19.

Table 19: Variance between forecasting methods – All Customer Project Codes*

Project Code	2012	2013	2014	2015	2016	2017	Average
(C-I-C)	Forecasted from Regulatory Accounts Only						-
Supply Mains	0.9%	0.7%	0.5%	0.4%	0.3%	0.2%	0.5%
(C-I-C)	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.4%
(C-I-C)	Forecasted from Regulatory Accounts Only						-
(C-I-C)	3.0%	1.9%	0.9%	0.3%	(0.2%)	(0.7%)	0.8%
(C-I-C)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(C-I-C)	(1.4%)	(2.0%)	(2.6%)	(3.0%)	(3.3%)	(3.6%)	(2.7%)

* NB: A positive number indicates a higher forecast using the 'first principles' method.

5.4 Contingency

In the current Access Arrangement Period SP AusNet's unit rates were significantly higher than allowed for in the regulatory benchmarks. This highlights the considerable uncertainty around forecasts, this is particularly damaging in regard to a category of capital expenditure which makes up such a large percentage of SP AusNet's overall capital spend.

To address this risk, SP AusNet has applied a 10% and 5% contingency to the residential and commercial unit rates within its submission. The chosen contingency levels are lower than the difference between benchmark and actual unit rates during the current period (see Section 3, page 7 for benchmarking within the current period). Given a similar approach to forecasting unit rates for the coming period was used during the last review; i.e. the use of historical actual unit rates as a base for forecasting future expenditure, this is considered appropriate as it is more likely to provide SP AusNet the opportunity to recover its efficient costs than the straight use of historical averages.

6 Customer Expenditure Requirements 2012-2017

SP AusNet's forecast expenditure for customer initiated capital is summarised within this section. SP AusNet manages customer initiated capital spend at a project code level as indicated in Table 20.

Refer to SP AusNet Gas Asset Management Plan (AMP 30-01) for further details on each project code and additional information on customer capital expenditure.

Table 20: Customer Capital Summary – Project Codes

Project Code	2012	2013	2014	2015	2016	2017
(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
Supply Mains	$2,098	$2,111	$2,116	$2,111	$2,103	$2,107
(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)	(C-I-C)
TOTAL Expenditure	$35,662	$35,932	$36,071	$36,036	$35,921	$36,023

Graph 1: Customer Initiated Capital