APA Group

APA GAS DISTRIBUTION TECHNICAL POLICY

Economic Criteria for Justification of Capex for Growth of APA Gas Networks

Policy Owner: Manager Commercial Gas Networks
Policy review period- annually

JULY 2010

TABLE OF CONTENTS

1. Purpose

This Policy is to ensure that growth of APA Gas Networks is efficient and meets the regulatory requirements.

To provide for the above, APA has developed a set of capital evaluation models that undertake economic feasibility testing for proposed capital expenditure against the requirements of section 79 of the National Gas Rules 2009.

This document sets out the assumptions to be used in evaluation of the economic feasibility for proposed new gas network extensions and customer connections.

01.1 The GN Growth Justification Model

All Capex proposals for gas network growth will be evaluated with a discounted cash flow analysis of the expected revenue and costs associated with a new growth prospects.

The discounted cash flow analysis adopts:

- Current regulatory tariffs
- Assumptions of average demand for residential customers
- Sales demand estimates for individual industrial and commercial customers (for both tariff and contract groups);
- Estimates the capital and operating expenditure required to provide service to the additional customer;
- Assumption of a 30 year service period in regard to residential applications, 30 years for industrial or commercial tariff applications; and duration of Contract terms for contract customer prospects,
- Hurdle rate of 10.3% per cent in post tax nominal terms

If the internal rate of return (IRR) for the project is greater than 10.3 per cent then it is deemed to have passed the economic feasibility test and no contribution is required. If the IRR is less than 10.3 per cent the model will determine the minimum contribution required for that project to become economic.

01.2 Modelling Approach

The GN growth testing model adopts default assumptions for the following four classes of residential customers.

- New home on line of main (LOM) – which is a new house that could be supplied from the existing gas main by routine service connection (no long service across high traffic road)
- New home not on LOM – which is a new house that is not located on the gas distribution network (and hence requires a gas main extension to the network);This group also includes the homes that are on LOM but require a non-routine service connection
- Existing home on LOM – which is an existing house that could be supplied from the existing main by routine service connection; and
- Existing home not on LOM – which is an existing house that is not located on the gas distribution network (and hence requires a gas main extension to the network);This group also includes the homes that are on LOM but require a non-routine service connection

.

The default assumptions can be replaced with more specific assumptions where this is considered more appropriate (i.e. due to adverse installation conditions).

The GN growth testing model does not adopt default assumptions to assess the feasibility of non domestic customer connections. This is due to the unique circumstances surrounding commercial and industrial connections (especially for demand customers), reflecting matters such as the variability of proposed load/consumption requirements.

01.3 Cost Inputs

The capital cost inputs used by the model are consistent with APA Group's forecast, based on historical costs incurred in connecting a new customer. This information is updated annually in accordance with APA Group's annual budget review process.
The capital cost for routine mains, services and meters, which are to service residential customers, could be applied as standard unit cost assumption.

The capital inputs for all other than the above group of prospects are to be determined on a case by case basis. These costs are primarily influenced by the size of the customer seeking a connection and their location relative to the gas distribution network and in general these costs are of greater variability.

The other group of cost to be used in the economic testing are the operating cost related to continual service provision.

01.4 Revenue Inputs

The inputs required for forecasting revenue for domestic customers relate to regulated price and expected sales.

As is the case for cost inputs, APA GN will adopt a case by case basis for estimating expected consumption/demand and price (where the applicable reference tariff does not apply) for non domestic customers.

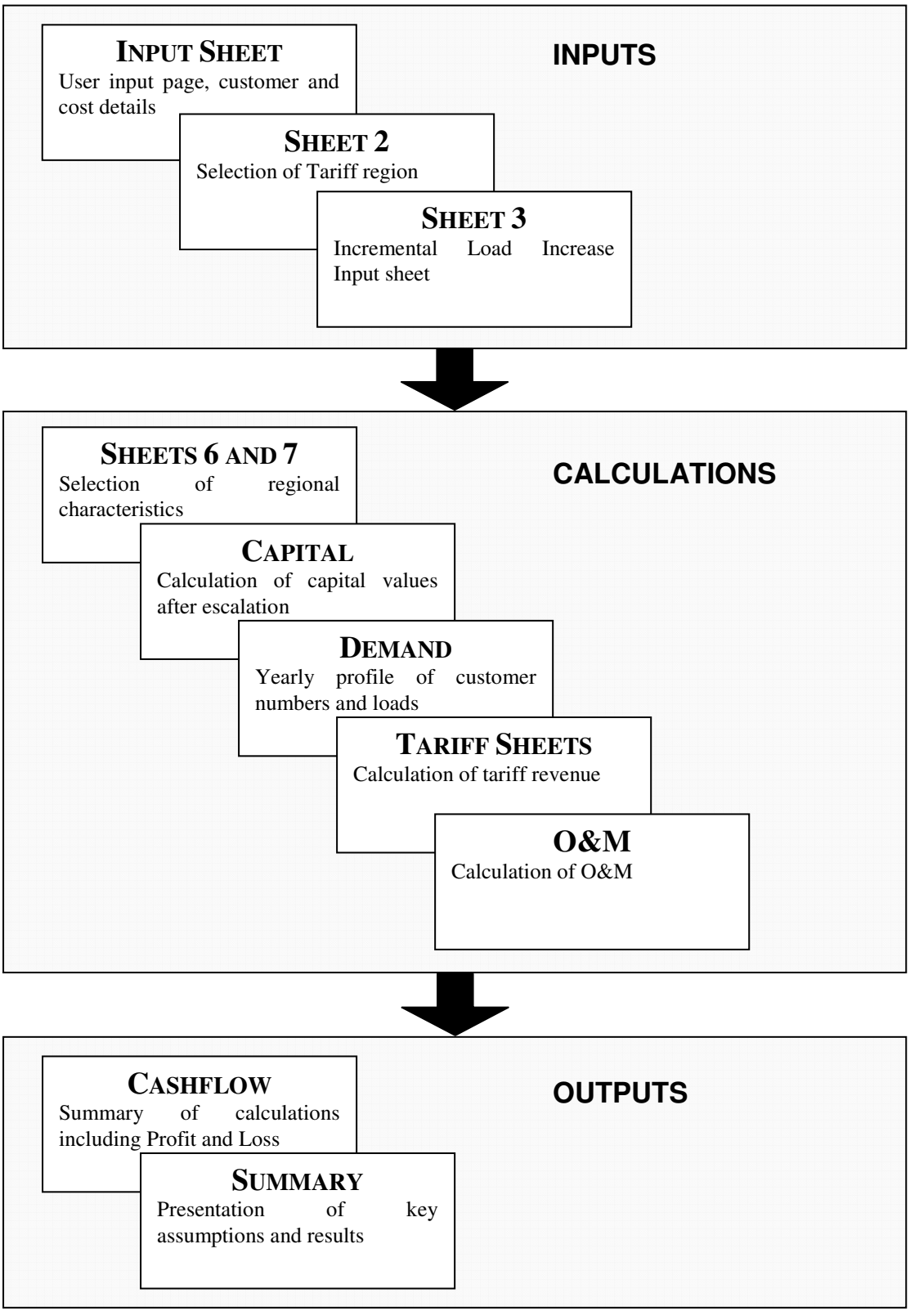
01.5 Result

The connection will be deemed to satisfy the requirements of section 79 of the National Gas Rules 2009 if the IRR for the proposed connection exceeds the hurdle rate of 10.3 per cent. There will be no customer contribution under this circumstance. In all other cases the model will determine the contribution required to ensure that the project is consistent with the requirements of the Rules.

The connection must not proceed in the absence of the contribution considered necessary by the economic model for that connection proposal.

2. Model Structure

The diagram below describes the structure of the GN growth Model. It is split into 3 sections, one each for Inputs, Calculations and Outputs. The boxes within the sections represent individual worksheets and their basic function. When in operation, these sheets are hidden to make the model more user friendly. Only the Input, Cashflow and Summary sheets are generally visible.



3. Detailed Discussion of Model Assumptions

This section sets out in more detail the assumptions used by the capital evaluation models.

03.1 Benchmark Discount Rate

The benchmark discount rate used by the GN growth model is 10.3 per cent, expressed in post tax nominal terms. Given the long term nature of investment decisions, the rate is set to reflect a forecast regulatory rate of return provided by regulators under the Rules and also reflects the standard assumption used by APA Group in its business evaluations.

The benchmark discount rate is used in the IRR and NPV calculations to determine whether a proposed new customer connection would satisfy section 79 of the Rules.

Description	Application	Post Tax Nominal Estimate for Evaluation	Source	When Updated
Benchmark Discount Rate	Discount rate post tax and IRR	Queensland 10.3% Tamworth 10.3%	Management Assumption	July 2010

03.2 Evaluation Period

The evaluation period reflects the period over which APA Group has forecast that it would recoup its investment and depends on factors such as the expected duration of a customer connection

Description	Application	Assumption	Source	When Updated
Evaluation Period	Number of years for which to evaluate cashflows for NPV and IRR calculations	APA QLD Domestic 30 years I&C 30 years Demand * Tamworth Domestic 30 years Commercial 30 years Demand *	Management Assumption	July 2010

* Note – this will be considered on a case by case basis.

03.3 Model CPI Escalation

The inflation rate used in the model is 2.5 per cent across all jurisdictions, reflecting long run historical averages of inflation. The inflation rate is applied to adjust Reference Tariffs (along with any regulatory X-Factor that might apply), operating costs and capital costs over the evaluation period.

Description	Application	Assumption per Jurisdiction	Source	When Updated
Escalation Rate	Rate for Indexing of Tariffs and Capital costs	APA Queensland 2.5% Tamworth 2.5%	Management Assumption	July 2010

Note: This is constant over the 20 year term of the model.

03.5 Incremental Costs of Network O&M

Operating and maintenance costs are used to determine the annual cost to serve the proposed new customer connection. The model adopts default assumptions in respect of proposed domestics and provides the option of using defaults for non domestic volume customers. If this is not considered appropriate, then customer specific expectations of operating costs are used.

The operating cost amounts the GN seeks to recover are the estimated incremental cost opex cost only.

	Description	Application	Assumption	Source	When Updated
APA QLD	Network O&M – Annual Fixed Charge per Customer	Ongoing annual operating and maintenance cost for each customer	$18.13/customer pa unit costs	Based on estimated annual cost of meter reading, billing and leak surveys.	July 2010

03.7 Base Case Settings

The Base Case Settings are used to set the penetration & load for the residential growth proposals. They are to be verified at the model development stage and adjusted accordingly.

03.7.1 Penetration Rates (New Home Subdivisions)

Penetration	% of land lots where house is built and connected to gas main (cumulative)
Commencement of mains capex	0
Penetration (End Yr 1)- meter & service capex	26
Penetration (End Yr 2)	53
Penetration (End Yr 3)	80
Penetration (End Yr 4)	80
Penetration (End Yr 5)	80
Penetration (End Yr10)	80
Penetration (End Yr20)	80

Manager Commercial GN will annually performer a random audit of historical investments to verify the penetration assumption and will adjust these assumptions in line with the audited results.

Revenue from connected customers will be scheduled in same year as a service and meter connection is completed. Year 1 of connection assumed at 50% volume stepping to 100% in year 2.

03.7.2 Connection Load

Load GJ per annum	**APA Qld**	**Tamworth**
New Homes	9.61	16
Existing homes	9.61	16

03.8 Capital Costs

The GN growth testing model uses default assumptions for all proposed domestic customer connections. The model also includes the option to adopt default assumption in regard to small industrial and commercial customers (non domestic volume customers), but retains the option to directly input capital cost assumptions should this be considered more appropriate due to the characteristics of that customer.

The information used by the model is again based on APA Group's current expectations of the capital cost required to connect new customers to its network. This information is therefore consistent with that used by APA Group for business planning purposes and is reflected in the most recent budget. Capital cost information is required for meters, inlets and mains and is set out in the below tables.

		$
Meters	Domestic & Commercial with meters' of 6m3/hr	250
	I&C with meters' greater than 6m3/hr	individually assess
Service	New Estate (no footpath established)	1,385
	Established streets	3,018
	I&C	individually assess

$ per metre		$
General Mains	Plastic main in established street	243
	New Estate (no footpath established)	70
	I&C	individually assess
		0

* **The evaluation method assumes that gas supply main capital is spent in year one and subsequent connection costs i.e. inlets and meters, occur as and when the customers are connected.**

03.9 Regions and Tariffs

In all jurisdictions where there is an Access Arrangement in place, the current approved Reference Tariffs are applied in the modelling. These tariffs are adjusted annually by the assumed CPI and actual X factor that applies over a regulatory period followed by an assumed X factor once the Access Arrangement is due to expire (as outlined earlier).

Jurisdiction	Structure	Regions	Zone	Rates
APA Queensland	Volume			**Tariff Schedules Attached**
	Demand	Brisbane	Zone 1 (DZ01) Zone 2 (DZ02) Zone 3 (DZ03)	
		Gold Coast	Zone 4 Zone 5 Zone 6	
		Toowoomba	Zone 7 (DZ07) Zone 8 (DZ08)	
		Oakey	Zone 9 (DZ09) Zone 10 (DZ10)	
Tamworth	Domestic		Distribution + Transmission Distribution Only	
	I&C		Distribution + Transmission Distribution Only	

03.13 P & L Issues

A P&L is provided as per APA Group requirement. It is a simple P&L showing post drawdown and interest results and takes into account depreciation.

03.13.1 Book Depreciation

Defines the depreciation rates to be used as part of the "Profit and Loss" calculation. Book depreciation calculations separated for pipe, meters and inlets.

Description	Application	Assumption (All Jurisdictions)	Source	When Updated
Book Depreciation	Book depreciation rate used for calculation of depreciation expense in EBIT reporting. Method of "SL" (straight line) is used.	Mains 1.7% Meters 6.7% Inlets 1.7%	APA Group	July 2010

03.13.2 Drawdown

Capital drawdowns applied as a percentage of accumulated capital expenditure at the specified rate.

Description	Application	Assumption per Jurisdiction	Source	When Updated
Drawdown	Fund drawdown as a % of cumulative capital expenditure	75%	APA Group	July 2010
Interest on Drawdown	Interest rate applied to calculate interest expense on fund drawdown.	7.10%	APA Group	July 2010

03.13.3 Tax Rate

Defines the tax rate to be used as part of the post tax calculation and return.

Description	Application	Assumption (All Jurisdictions)	Source	When Updated
Tax Rate	Applied to profit with depreciation as per 'Book Depreciation' above.	Rate 30%	APA Group	July 2010

Appendix I

Tariff Schedules (EXCL GST)

APT Allgas Queensland Network Tariffs **2010/2011 Financial Year**

Volume Tariff - APT Allgas

Base Charge	($/day)	$0.420
FRC Charge	($/day)	$0.070
Up to 1.7 GJ of gas delivered per day	($/GJ/day)	$8.060
Next 8.3 GJ of gas delivered per day	($/GJ/day)	$5.910
All gas delivered over 10 GJ per day	($/GJ/day)	$4.240

Demand Tariff - APT Allgas - Brisbane Region

		Zone 1 (DZ01)	Zone 2 (DZ02)	Zone 3 (DZ03)
Base Charge (MHQ)	($/GJ of MHQ/day)	$1.490	$2.270	$1.770
FRC Charge	($/day)	$18.020	$18.020	$18.020
MDQ of 50GJ or less	($/day)	$70.330	$101.800	$114.920
Next 75GJ of MDQ	($/day)	$0.780	$1.450	$2.330
Next 150GJ of MDQ	($/day)	$0.550	$1.200	$1.730
Next 250GJ of MDQ	($/day)	$0.240	$0.560	$0.950
Additional	($/day)	$0.210	$0.220	$0.260

Demand Tariff - APT Allgas - Gold Coast Region

		Zone 4	Zone 5	Zone 6
Base Charge (MHQ)	($/GJ of MHQ/day)	$1.320	$2.260	$2.340
FRC Charge	($/day)	$18.020	$18.020	$18.020
MDQ of 50GJ or less	($/day)	$141.340	$141.270	$148.120
Next 75GJ of MDQ	($/day)	$2.560	$2.700	$2.850
Next 150GJ of MDQ	($/day)	$2.200	$2.330	$2.440
Next 250GJ of MDQ	($/day)	$1.850	$2.000	$2.090
Additional	($/day)	$1.610	$1.740	$1.820

Demand Tariff - APT Allgas - Toowoomba Region

		Zone 7	Zone 8
Base Charge (MHQ)	($/GJ of MHQ/day)	$1.330	$2.720
FRC Charge	($/day)	$18.020	$18.020
MDQ of 50GJ or less	($/day)	$54.410	$70.500
Next 75GJ of MDQ	($/day)	$0.360	$0.760
Next 150GJ of MDQ	($/day)	$0.290	$0.590
Next 250GJ of MDQ	($/day)	$0.240	$0.400
Additional	($/day)	$0.220	$0.230

Demand Tariff - APT Allgas - Oakey Region

		Zone 9 (DZ09)	Zone 10 (DZ10)
Base Charge (MHQ)	($/GJ of MHQ/day)	$1.130	$1.700
FRC Charge	($/day)	$18.020	$18.020
MDQ of 50GJ or less	($/day)	$57.310	$125.210
Next 75GJ of MDQ	($/day)	$0.460	$2.350
Next 150GJ of MDQ	($/day)	$0.380	$1.890
Next 250GJ of MDQ	($/day)	$0.270	$1.160
Additional	($/day)	$0.220	$0.500

Central Ranges Pipeline - Tamworth **2010/2011 Financial Year**

	Transmission	Network	TOTAL
Domestic	$7.860	$4.250	$12.110
I&C	$6.050	$1.820	$7.870