SINCLAIR KNIGHT MERZ SKM MMA

Roma to Brisbane Pipeline
Review of demand forecasts

20 April 2012

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Executive Summary

Introduction

The Australian Energy Regulator (AER) has engaged SKM MMA to provide advice that will assist the AER informing a view regarding the reasonableness and accuracy of the demand forecasts that underlie the access arrangement proposal for the Roma- Brisbane Pipeline (RBP) submitted by APT Petroleum Pipelines Ltd (APTPPL). The access arrangement proposals set out the terms and conditions of access to the RBP for the period 1 July 2012 to 30 June 2017.

Specifically, the advice requested by the AER is to:

1. Review of the demand forecasts in the access arrangement proposal
2. Identification of key areas of inquiry for the AER in relation to the demand forecasts in the access arrangement proposal
3. Review of the AER's draft decision in relation to the demand forecasts in the access arrangement proposal and provide a letter of advice about any matters the AER should consider for its draft decision.

This report covers items 1 and 2 above. In assessing the proposed AA, the AER is required to be satisfied that the forecasts meet the following criteria specified by Rule 74 of the National Gas Rules (NGR):

"*(1) Information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate.*
(2) A forecast or estimate:
(a) must be arrived at on a reasonable basis; and
(b) must represent the best forecast or estimate possible in the circumstances".

This report therefore focuses on considering whether the APTPPL forecasts meet these criteria.

APTPPL forecasts

The APTPPL forecasts are presented in a number of documents: the Access Arrangement Submission (AAS); Access Arrangement Information (AAI); and Regulatory Information Notice (RIN). The AAS and AAI figures are the same and we focus on the more detailed AAS figures in this report. Differences between the AAS and RIN numbers are discussed in the body of the report below.

The AAS capacity and annual volume forecasts are presented in Table E- 1 and Table E- 2. The two services, reference and negotiated, are described in section 2.

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- **Table E- 1 RBP forecast capacity reserved (TJ/day) as per the AAS**

		Estimated	Access Arrangement Period Forecasts				
		2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Reference Service	GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Non-GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Total	203	203	203	203	203	187
Negotiated Service	Total	16	29	29	29	29	29
All Services	Total	219	232	232	232	232	216

- **Table E- 2 RBP forecast annual volumes (TJ) as per the AAS**

		Estimated	Access Arrangement Period Forecasts				
		2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Reference Service	GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Non-GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Total	58,431	60,979	61,490	61,623	62,463	57,681
Negotiated Service	Total	4,402	9,395	9,412	9,429	9,446	9,452
All Services	Total	62,833	70,374	70,902	71,052	71,909	67,133

SKM MMA assessment

The key features of the APTPPL forecasts that need to be reviewed to determine whether they meet the two NGR criteria (a) "arrived at on a reasonable basis" and (b) "represent the best forecast or estimate possible in the circumstances" are:

1. Growth rates through the forecast period
2. The step up in capacity and annual volumes in 2012/13
3. The step down in capacity and annual volumes in 2016/17

These features have been assessed by:

1. Comparing growth rates through the forecast period with other relevant forecasts, principally GSOO forecasts for the RBP, the Queensland distribution company forecasts, relevant electricity supply forecasts and gas supply contract information.
2. Considering the information provided to support the step up and step down in capacity usage.

Conclusions

Consideration of available leads us to the following conclusions as to whether the APTPPL forecasts in total (Reference Service plus Negotiated Service) meet the two NGR criteria:

a) "arrived at on a reasonable basis" and

b) "represent the best forecast or estimate possible in the circumstances"

1) Growth rates through the forecast period

   a) Yes

   b) Yes, they are consistent with available evidence

2) The step up in capacity and annual volumes in 2012/13

   a) Yes for capacity (based on actual contracts), No for annual volume (approach not adequately explained)

   b) Yes for capacity, No for annual volumes, for which the available evidence points to a lower annual volume in 2012/13.

3) The step down in capacity and annual volumes in 2016/17

   a) No, the range of alternative uses of the capacity has not been fully taken into account

   b) No, there is a reasonable likelihood that some or all of the capacity will be taken up

1. Introduction

1.1. Confidential information

All confidential information used to inform the AER has been redacted from this report.

1.2. Conventions

In this report:

1. All years are financial years unless otherwise stated. In tables financial years are denoted 2005/06 etc or referring to as the financial year ending on June 30. In figures 2006 refers to the financial year ending on June 30 2006.

1.3. Abbreviations and glossary of terms

AA	Access Arrangement - document governing terms of third party access to pipelines
AAS	Access Arrangement Submission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
APTPPL	APT Petroleum Pipelines Limited, owner of the RBP
Backward haul	Transportation service in the direction opposite to the physical flow on the pipeline
Conventional gas	Natural gas produced from hydrocarbon reservoirs in sandstone formations
CSG	Coal seam gas – natural gas adsorbed in coal seams and released by drilling
End user	Consumer of gas
Firm capacity	Pipeline capacity reserved by and paid for a user

Forward haul	Transportation service in the direction of physical flow on the pipeline
Gas	Natural gas, a mixture predominantly of methane, also containing other hydrocarbons and inert gases
GJ	Gigajoule (joule x 10^9)
GPG	Gas powered generation
GSA	Gas supply agreement
GSOO	Gas Statement of Opportunities
Interruptible capacity	Pipeline capacity used and paid for when it is available
LF	Load factor – average daily load / peak daily load
MAQ	Maximum Annual Quantity
MDQ	Maximum daily quantity – the pipeline capacity reserved by a user
NEM	National Electricity Market
NGL	National Gas Law
NGR	National Gas Rules
Non-GPG	End uses other than GPG
OCGT	Open cycle gas turbine
Pipeline gas	Dry gas of pipeline or merchantable quality
PJ	Petajoule ((joule x 10^{15})
RBP	Roma-Brisbane Pipeline
RIN	Regulatory Information Notice
STTM	Short term trading market
TJ	Terajoule ((joule x 10^{12})
User	Party that contracts to use the RBP, also known as a Shipper

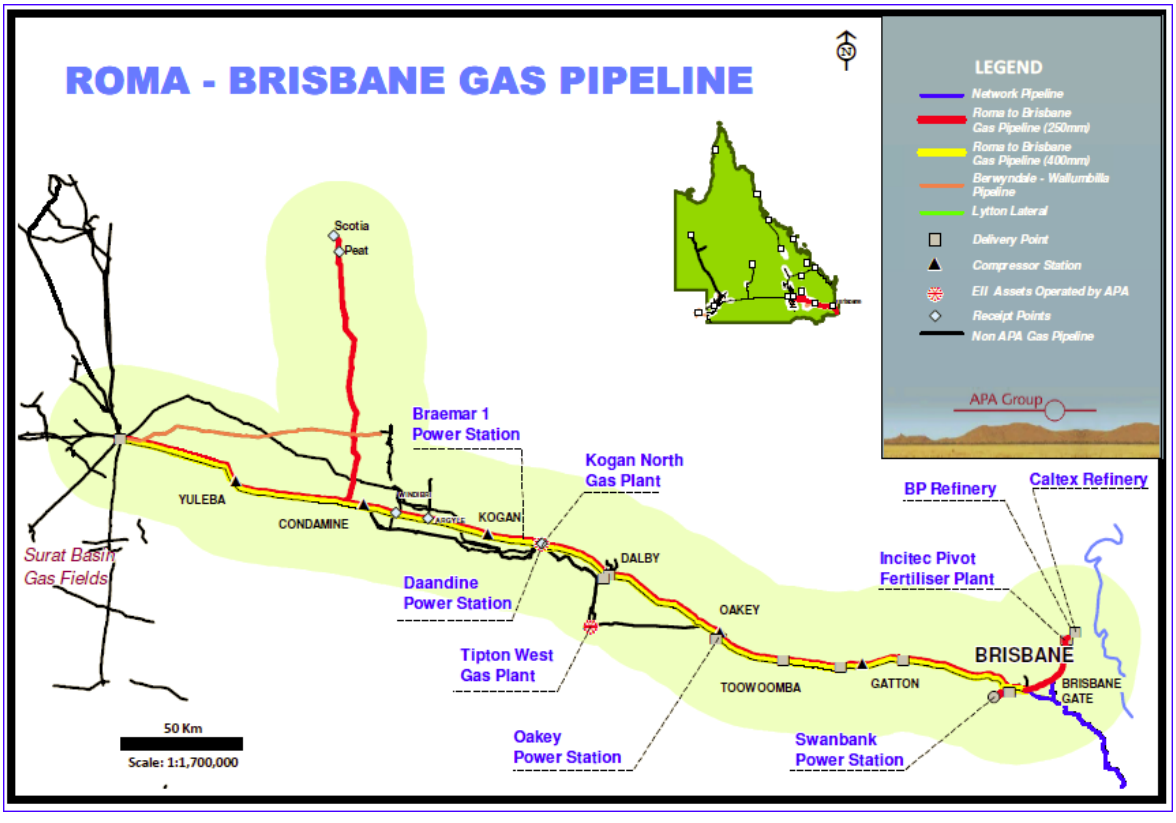
Wet gas	Gas still containing liquids

2. Background

2.1. The Roma to Brisbane Pipeline

The Roma to Brisbane Pipeline (RBP) is a collection of pipelines that now transports natural gas from a number of receipt points (originally just Wallumbilla near Roma) to a number of delivery points along its length (originally mostly in Brisbane). The receipt points include Wallumbilla, Peat, Scotia, Kogan North and Tipton West (indirectly), and the delivery points include Condamine (into the Braemar 1 PS Linepack Pipeline), Dalby, Toowoomba, Gatton, Oakey PS, Swanbank PS, Incitec Pivot, BP, Caltex and city gate connections to the Allgas and Envestra Brisbane distribution systems (refer to Figure 2-1).

- **Figure 2-1 The Roma-Brisbane Pipeline**



Source: APTPPL

The principal components of the RBP are:

- The original 440 km, 273 mm diameter mainline from Wallumbilla to Gibson Island constructed in 1969, including 3 compressors stations.

- The 410 km, 406mm diameter duplicate "loop" from Wallumbilla to Ellengrove, constructed between 1988 and 2002, also with 3 compressor stations
- The 38km Swanbank lateral (2001)
- The 121km Peat lateral (2003)
- The 6 km Lytton lateral (2010)

The two main lines operate independently, at different pressures.

The RBP system is fully owned and operated by APT Pipelines (APTPPL), itself owned by APA Group (APA), which provides energy transport services across Australia. APA owns other assets in the vicinity of the RBP, such as the Berwyndale-Wallumbilla pipeline, which transports gas from QGC's Berwyndale gas plant to Wallumbilla for on-carriage to Moomba via the South West Queensland Pipeline. These other APA assets are not part of the RBP.

2.2. Capacity of the RBP

The RBP's current capacity as reported by the National Gas Market Bulletin Board is 219 TJ/day. However this is inconsistent with information presented in the AAS which indicates that current capacity is only c-in-c TJ/day:

- A capacity expansion of c-in-c TJ/d ay known as RBP 8 is currently underway and is expected to be completed by mid 2012
- From Mid 2012 the capacity of the RBP will be 232 TJ/day

We understand that the 219 TJ/day is in fact the current contracted capacity and that the RBP is temporarily over-contracted, which will be resolved in mid 2012.

The 232 TJ/day in mid 2012 represents the level of firm delivery capacity APA is prepared to commit to under firm contract terms and conditions and the current gas receipt and delivery pattern. The capacity has two components:

- Existing capacity as configured at 31st January 2006, currently 203 TJ/d
- Any future capacity or geographic extension to the Pipeline (after 31st January 2006) which is covered and subject to this Access Arrangement under the Extensions/Expansions Policy : 29 TJ/day by mid 2012.

Capacity can be further expanded through looping if required.

2.3. Regulation of the RBP

The RBP is a covered pipeline with economic regulation being undertaken by the Australian Energy Regulator (AER) under the National Gas Law (NGL) and National Gas Rules (NGR).

Under the NGL/NGR, covered pipelines are required to submit Access Arrangements (AAs), specifying the commercial terms under which third parties can obtain the services provided by the pipeline, to the AER for approval prior to the next regulatory period. APTPPL submitted its proposed AA covering the period 12 April 2012 to 30 June 2017 (the next regulatory period) in October 2011.

The services must include at least one Reference Service, which is sought by a significant part of the market, for which a Reference Tariff is specified.

The AA and associated Access Arrangement information (AAI) provide the basis for the regulation of reference tariffs. The current tariffs for the sole RBP Reference Service (defined in the following section) under the existing AA are:

- A capacity reservation rate of $0.4742/GJ maximum daily quantity (MDQ) reserved
- A commodity throughput rate of $0.0317/GJ.

As a result of the above tariff structure, the key revenue determinant is the amount of capacity reserved which is estimated to make up some 95% of reference service revenue.

2.4. The Reference Service

There is currently one reference service currently offered on the RBP, a non-interruptible service for the receipt, transportation and delivery of gas through any length of the Pipeline in the direction from Wallumbilla or Peat to Brisbane[1]. The Reference Service is provided at the Reference Tariff and includes the following:

a) receipt of gas at the Receipt Points;

b) transportation of gas through the Pipeline, including use of compression facilities installed on the Pipeline;

c) delivery of gas at the Delivery Points;

[1] Approved Revised AA for the RBP. APA, 2007

d) provision of an Overrun facility; and

e) for installations owned and operated by APTPPL, the measurement of gas quantity and quality and of gas pressures.

No other reference services are offered, for example backhaul (in the opposite direction, by displacement). This policy is continued in the revised AA submitted by APA and in view of this, from the regulatory standpoint it is necessary to specify only the aggregate capacity demand and annual volume figures for use in determining reference tariffs.

The Reference Service is available for Existing Capacity (the 203 TJ/day defined above). For other capacity and/or other services Negotiated services are available under Terms and Conditions including tariffs negotiated between the user and APA.

2.5. Role of demand forecasts

Demand forecasts have played a significant role in determining the reference tariffs applicable to many covered pipelines:

- Demand may be a significant determinant of future capital and operating costs used to estimate the regulated revenue
- Demand acts as a divisor of regulated revenue in setting the tariffs

Generally the second role is by far the greater for gas transmission and distribution pipelines. However, the RBP has for a number of years operated at or near capacity and the possibility of increasing capacity, and associated capital expenditure (capex) may be a significant consideration for the next regulatory period.

2.6. Criteria for satisfactory demand forecasts

According to Rule 74 of the NGR:

"*(1) Information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate.*
(2) A forecast or estimate:
(a) must be arrived at on a reasonable basis; and
(b) must represent the best forecast or estimate possible in the circumstances".

In assessing the proposed AA, the AER is required to be satisfied that these requirements have been met. In addition, the AER's AA decision is subject to both merit review by the Australian Competition Tribunal and judicial review in the Federal Court. As a result, any review by consultants must be carried out professionally and with robust, substantiated and well-argued conclusions and recommendations.

3. Historical demand

3.1. APTPPL Regulatory Information

APTPPL has provided information regarding demand for RBP services in the period 2006/07 to 2011/12 in its Access Arrangement Submission (AAS), Access Arrangement Information (AAI) and Regulatory Information Notice (RIN). The AAS and AAI figures are the same and we focus on the more detailed AAS figures in this report. Differences between the AAS and RIN numbers are discussed below.

The demand data covers: number of users; capacity reserved; peak demand; and annual demand. In the AAS all the data apart from number of users is disaggregated into the two classes of service and two user categories: gas-powered generators (GPG) and non-GPG ([redacted]). The 2011/12 values are estimates.

AAS historical demands are presented in Table 3-1, Table 3-2 and Table 3-3 and RIN historical values are presented in Table 3-4..

Table 3-1 RBP historical number of users as per the AAS

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Number of Users	8	9	11	11	11	11

Table 3-2 RBP historical capacity reserved (TJ/day) as per the AAS

		2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Reference Service	GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Non-GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Total	197	203	203	203	203	203
Negotiated Service	Total	0	0	5	16	16	16
All Services	Total	197	203	208	219	219	219

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- **Table 3-3 RBP historical annual volumes (TJ) as per the AAS**

		2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Reference Service	GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Non-GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Total	61,658	61,377	62,028	57,342	57,667	58,431
Negotiated Service	Total	0	0	1,489	4,345	4,316	4,402
All Services	Total	61,658	61,377	63,517	61,687	61,983	62,833

- **Table 3-4 RBP historical peak demand and annual volumes as per the RIN**

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Maximum Demand (TJ/day)	216.5	203.4	207.6	209.3	207.7	232
Annual Volume (TJ)	61,649	61,211	63,510	61,685	60,955	68,636

The following features are noted:

1) Reported values may differ from APTPPL's owing to rounding.
2) The number of users (shippers) has increased
3) The AAS and RIN volume data are reasonably consistent up to 2009/10 but approximately 1,000 TJ different in 2010/11 and nearly 6,000 TJ different in 2011/12. Based on RBP data published by AEMO in the Gas Bulletin Board, we believe the RIN data is more accurate in 2010/11. However the RIN volume estimate in 2011/12 appears to be derived from the significant increase in peak demand, which is not supported by the capacity reservation and appears to be anomalous.

3.2. Other Data

3.2.1. Short-Term Trading Market

The Brisbane short-term trading market or STTM started on 1st December 2011. The STTM is a price based settlement system for imbalances in gas deliveries into the Brisbane hub. Deliveries outside Brisbane are not included. AEMO, which operates the STTM, publishes bid/offer data which reveals the RBP capacity offered by shippers to the market. STTM data up to 7th December 2011 reveals seven shippers offering a total of 198 TJ of RBP capacity (Table 3-5).

Table 3-5 STTM Offers, Brisbane hub

User/Shipper	Maximum Capacity Offered (TJ)	Equivalent Annual Volume (TJ)
AGL Sales (Queensland) Pty Limited	[redacted]	
Australian Power and Gas Limited		
B P Australia Pty Ltd		
Incitec Pivot Limited		
Origin Energy Retail Ltd		
Santos Ltd (Shipper)		
Stanwell Corporation Limited		
Total		

Source: data from AEMO Website interpreted by SKM MMA. Annual volumes have been rounded to the nearest 100 TJ.

The remaining capacity is controlled by shippers taking delivery outside the Brisbane hub, including:

- Braemar Power Station – approximately [redacted] or [redacted] delivered at [redacted][2]
- AGL and Origin – unknown capacity delivered to APA-owned distribution networks at Oakey and Toowoomba

[2] APA News Release 22 April 2005.

- Dalby Council – approximately [redacted] delivered to the Dalby Council owned distribution system[3]. The gas shipper may be another party.
- Oakey Power Station – it is understood that Oakey has an interruptible transmission arrangement, hence no capacity is reserved. Oakey is owned by ERM and its output fully contracted to AGL to 2014. AGL is also responsible for gas supply up to 2014[4].

The above list takes the number of identified users to eight or nine, two or three less than reported by APTPPL. It is possible that the AGL or Origin entities delivering outside Brisbane hub are different from those delivering to the hub, which would explain this discrepancy.

The combined STTM and non-STTM data suggests that the current 219 TJ of contracted capacity is allocated as follows: [redacted]

[3] Based on data on Dalby in http://www.ncc.gov.au/images/uploads/REGaDaMD-001.pdf

[4] AGL ASX release 13/08/2007

4. APTPPL Demand Forecasts

4.1. Approach

APTPPL's demand forecasts are based upon separate consideration of the two market sectors, GPG and non-GPG, on the basis of their having markedly different drivers.

4.1.1. GPG

APTPPL has not had any specific requests for energy supply to new gas-fired power stations on the RBP and notes that the Queensland Gas Market Review[5] has identified that it is unreasonable to assume that any new GPG projects would be served from the RBP. Consequently APTPPL has assumed GPG demand in line with current levels and consistent with current capacity reservations.

4.1.2. Non-GPG

APTPPL has also not had any specific requests for energy supply to large projects and has forecast non-GPG load to be largely flat, increasing only in line with the distribution forecasts for APT Allgas and Envestra distribution networks. However the capacity reservation increases in 2012/13, in line with existing contracts for additional capacity, and decreases in 2016/17 with the expiry of a shipper contract. Annual demand is projected to follow these changes in contracted capacity.

4.2. Forecasts

APTPPL's forecasts are presented in Table 4-1 to Table 4-4.

Table 4-1 RBP forecast number of users as per the AAS

	Actual	Access Arrangement Period Forecasts				
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Number of Users	11	10	10	10	10	9

[5] Queensland Department of Employment, Economic Development and Innovation, *2011 Gas Market Review Queensland,* p27. Attachment 3.1

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- **Table 4-2 RBP forecast capacity reserved (TJ/day) as per the AAS**

		Actual	Access Arrangement Period Forecasts				
		2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Reference Service	GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Non-GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Total	203	203	203	203	203	187
Negotiated Service	Total	16	29	29	29	29	29
All Services	Total	219	232	232	232	232	216

- **Table 4-3 RBP forecast annual volumes (TJ) as per the AAS**

		Estimated	Access Arrangement Period Forecasts				
		2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Reference Service	GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Non-GPG	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c	c-in-c
	Total	58,431	60,979	61,490	61,623	62,463	57,681
Negotiated Service	Total	4,402	9,395	9,412	9,429	9,446	9,452
All Services	Total	62,833	70,374	70,902	71,052	71,909	67,133

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Table 4-4 RBP forecast peak demand and annual volumes as per the RIN

	Estimated	Access Arrangement Period Forecasts				
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Maximum Demand (TJ/day)	232	232	232	232	232	217
Annual Volume (TJ)	68,636	68,636	68,636	68,636	68,636	64,198

The following features are noted:

1) The above values may differ from APTPPL's owing to rounding.
2) The RIN maximum demand forecast is the same as the AAS capacity reservation forecast. We understand that the capacity forecast is based on current contracts.
3) The RIN and AAS annual volume forecasts are different by up to 3,300 TJ.
   a) The RIN annual volume forecast is derived from the RIN maximum demand forecast by application of a fixed load factor of 81.05%., which is almost equal to the historical period average load factor of 81.08% (for the RIN data load factor is defined as Annual Volume /(365 x Maximum Demand).
   b) The AAS annual volume forecast increases by about 500TJ/yr from year 1 to year 4 before declining in year 5. The load factor increases from 83.11% to 85.15%. The substantial increase in volume from 2011/12 to 2012/13 is driven by the increase in capacity reservation and an increase in load factor from 78.61% to 83.11%. No reason is given for any of the changes in load factor (for the AAS data load factor is defined as Annual Volume /(365 x Contracted Capacity).
   c) AER asked APTPPL to explain the difference and state which should be used for its review. APTPPL responded that as the tariff is based on reserved capacity and there is no forecast expansion capex the AER review should be based on the 232 TJ/d ay of reserved capacity. Unfortunately the tariff does depend to a small extent on volume and this response does not indicate which volume forecast is preferred.

5. SKM MMA Assessment

5.1. Key features to be reviewed

The key features of the APTPPL forecasts that need to be reviewed to determine whether they meet the two NGR criteria (a) "arrived at on a reasonable basis" and (b) "represent the best forecast or estimate possible in the circumstances" are:

1. Growth rates through the forecast period
2. The step up in capacity and annual volumes in 2012/13
3. The step down in capacity and annual volumes in 2016/17

Note: all of the comparative analysis undertaken in this section relates to capacity and annual volumes in total or by end user type because all the available evidence is presented in this way. Conclusions regarding Reference Capacity/Service and Negotiated Capacity/Service projections separately are presented in section 6.

5.2. Growth rates through the forecast period

The growth rates through the forecast period can be judged against other relevant forecast, principally GSOO forecasts for the RBP, the Queensland distribution company forecasts, relevant electricity supply forecasts and gas supply contract information.

5.2.1. 2011 GSOO

In the AAS APTPPL uses RBP projections published by AEMO in the 2010 Gas Statement of Opportunities (GSOO) as a reasonableness check on the projections in section 4 above, notwithstanding disparities between the 2010 GSOO projections and the AAS forecasts. Since the preparation of the AAS and other RBP Access Review documents AEMO has released the 2011 GSOO, which to a large extent eliminates the discrepancies and provides a better reasonableness check on the AAS Forecasts.

Table 5-1 and Table 5-2 present the 2011 GSOO forecasts for the RBP for the Decentralised (Medium) scenario, for 1-in-20 winter peak demand and annual volumes respectively[6]. The 2011 GSOO peak demand projections are very close to APTPPL's capacity reservation projections in Table 4-2 with the exception of the final year, where the total is maintained rather than declining.

[6] http://www.aemo.com.au/planning/GSOO2011/chapters.html, Chapter 5 Additional Data

- **Table 5-1 2011 GSOO Decentralised World Scenario RBP forecast 1-in-20 winter peak demand (TJ)**

	Estimated	Access Arrangement Period				
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
GPG	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non-GPG	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	197	224	228	230	228	231

The 2011GSOO annual volume projections are over 9,000 TJ lower than APTPPL's annual volume projections in Table 4-3 in 2011/12 and 2012/13, owing to lower projected GPG use. Given the likely structures of gas contracts held by Swanbank E in particular (refer to section 5.2.5.1), we believe APTPPLs projections are more realistic in these years. In the following three years the difference reduces to 3,000 to 4,000 TJ. In the final year the 2011 GSOO projection is higher than the APTPPL projection.

- **Table 5-2 2011 GSOO Decentralised World Scenario RBP forecast annual volumes (TJ)**

	Estimated	Access Arrangement Period				
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
GPG	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Non-GPG	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	53,520	60,836	67,474	68,100	67,808	68,372

5.2.2. Large customer usage

Commercial-in-confidence.

5.2.3. Distribution company forecasts

Revised Access Arrangements for the Queensland gas distribution companies, APT Allgas and Envestra, were approved by AER in June 2011. The Revised AAs include demand forecasts tabled below. It is noted that the Envestra Demand C&I component is calculated from the projected MDQ using an assumed load factor of 75%. The entire APT Allgas load is transported on the RBP as is the Brisbane component of the Envestra load. The Gladstone/Rockhampton component of the Envestra load, which we estimate to be approximately 500 TJ/yr[7], is not transported on the RBP. The combined projections show very modest growth averaging 1.07% from 2011/12 to 2015/16.

Table 5-3 Distribution company AER approved demand forecasts (TJ)

Company	Sector	2011/12	2012/13	2013/14	2014/15	2015/16
APT Allgas	Residential	806	826	846	867	889
	Volume C&I	2,121	2,190	2,261	2,334	2,408
	Demand C&I	6,970	6,985	7,000	7,015	7,030
	Total	**9,897**	**10,001**	**10,107**	**10,216**	**10,327**
Envestra	Residential	653	656	657	657	659
	Volume C&I	1,373	1,412	1,423	1,443	1,474
	Demand C&I	5,632	5,737	5,720	5,753	5,859
	Total	**7,658**	**7,804**	**7,800**	**7,853**	**7,992**
Combined	**Total**	**17,555**	**17,805**	**17,907**	**18,069**	**18,319**

[7] Derived from data in Envestra's June 2006 Access Arrangement Information.

5.2.4. 2010 NTNDP[8]

The National Transmission Network Development Plan (NTNDP) prepared by AEMO provides an indication of the need for further generation capacity in South East Queensland (SEQ). The SEQ zone of the National Electricity Market (NEM) contains the rapidly growing demand areas of Brisbane, Sunshine Coast and Gold Coast. However the amount of generation that can be expected in this area is limited by air quality and noise level restrictions, as well as the relatively high cost of land. To handle this, the NTNDP places a limit of 1200 MW on the allowable generation capacity and type of new generation in this zone.

In all scenarios 1200 MW of OCGT is placed in the SEQ zone and is installed prior to any other generation type because the fuel (gas) costs is assumed to be comparable with that in the SWQ zone (in the CSG producing area around Tarong) and low transmission requirements to the demand centre. In many NTNDP scenarios the 1200 MW limit is reached quickly, for example in the Decentralised World-Medium Scenario, 600 MW of OCGT capacity is built in SEQ in 2012/13 and a further 600 MW is built in 2013/14.

This capacity would require additional RBP capacity and these results therefore are starkly different to APTPPL's assumptions and the GSOO projections. This brings into question whether the assumed costs of fuel for the SEQ OCGTs are reasonable. We are not able to determine precisely what the fuel cost assumptions are in the 2010 NTNDP, however the fuel cost source for the 2010 ESOO is the report "Fuel resource, new entry and generation costs in the NEM"[9]. Table 44 of this report estimates the delivered gas cost for new OCGTs to be $5.84/GJ in SEQ and $5.46/GJ in SWQ, in 2010 dollar terms. The difference of just $0.38/GJ is the estimated cost of new capacity in the RBP, which for an OCGT with low load factor would seem to be far too low. Moreover, the most recent new gas supply arrangements[10] appear to have been made at a price of $6/GJ at the wellhead, which would further increase the cost in the SEQ zone. We are therefore inclined to discount the NTNDP projections for the RBP.

[8] Material for this section is extracted from the 2010 NTNDP, http://wwww.aemo.com.au/planning/0410-0066.pdf

[9] http://www.aemo.com.au/planning/419-0035.pdf

[10] http://www.theaustralian.com.au/business/mining-energy/agl-secures-east-coasts-most-expensive-gas-deal/story-e6frg9df-1226187039505

5.2.4.1. TRUenergy gas-fired generation announcement

On 25th October 2011 the Queensland Premier and TRUenergy announced a multi-billion dollar investment in two new gas fired power stations in Queensland[11]:

"The stations will be developed in Ipswich and in Gladstone and will be powered with gas from the State's south west gas fields meaning they will emit up to 50% less CO2 than a coal-fired station."

"The Premier said TRUenergy had commenced the development application process for the two high-efficiency gas-fired power stations. The power stations will be developed in stages with the initial units sized at around 500MW and have a total capacity of up to 1500MW each depending on energy demands. The Ipswich Power Station will be located within a 500ha industrial park, on land already zoned for heavy industrial use, near the existing Swanbank B coal fired power station which will close in April 2012."

"The permitting process will occur over the next 12 months. Subject to the receipt of all permitting and development approvals, construction could begin as early as 2013."

Notwithstanding the definitive tone of this announcement, it is our understanding that TRUEnergy's plans are at an early stage of development and are far from committed. To the best of our knowledge gas supply for the plants has yet to be arranged and TRUEnergy does not control any gas reserves in Queensland at this time.

In view of the factors discussed in the previous section we are not convinced that the Ipswich plant will proceed and that if it does, it will not commence operation until the last two years of the Access Arrangement Period.

5.2.5. Gas contracts

Gas contract information provides a clear indication of the relevant buyer's intention to use certain quantities of gas. This is because gas contracts place caps and floors on the quantities used, by setting maximum annual quantities and take-or-pay levels (a level below which a user must pay for gas not used).

[11] Media statement by the Premier and Minister for Reconstruction, 25 October 2011.

5.2.5.1. Gas supply

End user contracts identified as relevant to the RBP are listed in Table 5-4. In addition to these it is expected that AGL, Origin Energy and other retailers will source gas from their supply portfolios to meet retail demand.

Table 5-4 Gas supply contracts relevant to the RBP

[redacted]

The maximum annual contract quantities (MAQs) identified with each major RBP shipper for each year in the Access Arrangement Period are shown in Table 5-5. With the exception of [redacted] all of the quantities are similar to the annual volumes identified using the STTM data (Table 3-5). We assume that [redacted] has other contracts that cannot readily be identified from public sources.

The contract data supports the view that RBP load will be flat for the first four years and then possibly fall, unless certain contracts are renewed for the final year. No new contracts that could support major load growth have been identified. Given that gas supply contracts are generally negotiated some years ahead of first gas delivery, to enable supporting infrastructure to be constructed, this suggests that potential load growth could only occur towards the end of the AA period.

- **Table 5-5 Maximum annual contract quantities identified with each major RBP shipper (PJ)**

[redacted]

Source: SKM MMA estimates based on references in Table 5-4 and other public information sources

Assuming that [redacted] does have another [redacted] of MAQ available, taking the total to approximately 74 PJ from 2012/13 to 2015/16, and applying a typical annual usage level of 90%, the above contracts would support annual demand of approximately 67 PJ over these four years.

5.2.5.2. RBP Transmission

The above contract MAQs are consistent with known RBP transmission contracts, listed in Table 5-6.

- **Table 5-6 RBP gas transmission contracts**

[redacted]

5.3. Step up in capacity and annual volumes in 2012/13

The step up in reserved capacity from 219 TJ/day to 232 TJ/day in 2012/13 parallels an increase in capacity of c-in-c TJ/day due to construction of the RBP 8 looping, compression and pressure upgrade. The cause of the discrepancy between the increase in reserved capacity and the increase in actual capacity in described in section 2.

APTPPL has not provided any substantive information regarding the end users that will account for the 7,500 TJ increase in annual volume from 2011/12 to 2012/13 other than that it must be in the non-GPG sector (Table 4-3). However none of the 2011 GSOO, the distribution company forecasts or our large user interviews has revealed any non-GPG load that would account for this growth. To resolve this it is instructive to examine the load factor changes that accompanied recent changes in capacity reservation and compare it with the forecast. In 2009/10 the load factor declined by 6% but the forecast assumes it will increase by 4.5% in 2012/13 (Table 5-7).

Table 5-7 RBP Actual and forecast load factor

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Capacity Reserved (TJ)	197	203	208	219	219	219	232
Annual Volume (TJ)	61,658	61,377	63,517	61,687	61,983	62,833	70,374
Load Factor (%)	85.7%	82.8%	83.7%	77.2%	77.5%	78.6%	83.1%

In the absence of an identified end use increase it would seem more logical to assume either: (a) annual volume continues to grow on its recent trajectory and load factor falls in 2012/13; or (b) load factor continues from its recent level and annual volume increases in proportion to capacity reserved. In case (a) the annual volume in 2012/13 would be about 63,400 TJ and in case (b) it would be about 66,600 TJ.

5.4. Step down in capacity and annual volumes in 2016/17

APTPPL notes that the step down in capacity reservation of 16 TJ/day in 2016/17 and proportional annual volume is associated with the expiry of an existing shipper contract. APTPPL expects that this capacity will be subscribed (via the Queuing Policy) but has not included this re-subscription in the forecast.

The shipper in question is [redacted] which has supply and transmission contracts that end in 2016 and whose contract volume matches the decline in reserved capacity. It is pertinent to question whether it is reasonable to assume that [redacted] will not want to extend its RBP contract or why the capacity would not be contracted by another party.

[redacted]

[redacted]

[redacted]

[redacted] If RBP Brisbane area load growth is as forecast, by 2016/17 it is likely that some or all of this capacity would be taken up.

6. Conclusions

6.1. Total forecasts

Consideration of the evidence presented in section 5 leads us to the following conclusions as to whether the APTPPL forecasts in total (Reference Service plus Negotiated Service) meet the two NGR criteria:

a) "arrived at on a reasonable basis" and

b) "represent the best forecast or estimate possible in the circumstances"

1) Growth rates through the forecast period

   b) Yes

   c) Yes, they are consistent with available evidence

2) The step up in capacity and annual volumes in 2012/13

   b) Yes for capacity (based on actual contracts), No for annual volume (approach not adequately explained)

   c) Yes for capacity, No for annual volumes, for which the available evidence points to a lower annual volume in 2012/13.

3) The step down in capacity and annual volumes in 2016/17

   b) No, the range of alternative uses of the capacity has not been fully taken into account

   c) No, there is a reasonable likelihood that some or all of the capacity will be taken up

6.2. Reference and Negotiated Capacity/Service

As noted in section 5.1, the Reference Service/Capacity and Negotiated Service/Capacity forecasts cannot be assessed independently. The following conclusions are drawn on the basis of which Service is related to the negative assessments of the total forecasts, for example the step down in capacity and annual volumes in 2016/17 is related to Reference Service/Capacity hence the above conclusions apply to Reference Service/Capacity.

6.2.1. Reference Capacity/Service

1) Growth rates through the forecast period

   a) Yes

   b) Yes

2) The step up in capacity and annual volumes in 2012/13

   Not applicable

3) The step down in capacity and annual volumes in 2016/17

   a) No, the range of alternative uses of the capacity has not been fully taken into account

   b) No, there is a reasonable likelihood that some or all of the capacity will be taken up

6.2.2. Negotiated capacity/service

1) Growth rates through the forecast period

   a) Yes

   b) Yes

2) The step up in capacity and annual volumes in 2012/13

   a) Yes for capacity (based on actual contracts), No for annual volume (approach not adequately explained)

   b) Yes for capacity, No for annual volumes, for which the available evidence points to a lower annual volume in 2012/13.

3) The step down in capacity and annual volumes in 2016/17

   Not Applicable