Roma Brisbane Pipeline

Access arrangement Overview

1 July 2021

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Foreword

APA owns and operates the Roma Brisbane Pipeline, which plays a major role in energy supply in Southern Queensland. It transports natural gas to Brisbane and Toowoomba and for power generation.

We recently prepared, for Australian Energy Regulator's approval, proposed revisions to the key regulatory document — the Access Arrangement — for the Roma Brisbane Pipeline.

Last year, APA refreshed its corporate purpose. Our Purpose is to strengthen communities through responsible energy. This means doing the right thing, even in tough situations. It also means creating value for all our stakeholders; taking a long-term view; investing in future technologies and new energy; and innovating for a sustainable future.

Consistent with that Purpose, we have undertaken comprehensive community consultation while preparing our Roma Brisbane Pipeline access arrangement proposal. By consulting widely with stakeholders, including consumer advocates, pipeline users and prospective users, gas producers, gas retailers, industry and business groups, landowners, and Queensland Government agencies, we have been able to prepare an access arrangement revision proposal that better reflects the needs and expectations of our stakeholders.

This is especially important at a time of significant change for the Roma Brisbane Pipeline with some of its infrastructure aging and approaching the end of its life and shippers and customers increasingly using the pipeline in ways that are new and different. More information on these issues is available on our website at RBP access arrangement.

We have heard, in our consultation with APA's stakeholders, that energy prices are the number one concern for consumers and businesses. Businesses are facing tough conditions, and lower cost energy is seen as important for long term economic development. This has led to APA propose a pricing strategy in the form of prudent discounts that recognises the financial difficulties faced by some customers.

Consistent with these concerns, in preparing our access arrangement revision proposal, our priority was on keeping costs down and as efficient as possible, while delivering the safe and reliable operation of the Roma Brisbane Pipeline

for gas supply security in Brisbane. The prices for gas transportation that we have proposed to the Australian Energy Regulator for financial year 2023 are lower than the current price, with a material part of the reduction attributable to our focus on lowering costs. The current tariff is 0.5802 $GJ/MDQ. The proposed eastbound reference tariff for financial year is $0.5579 and westbound reference tariff is $0.5730. A reduction of 4% and 1% respectively.

I wish to thank everyone who participated on the Roma Brisbane Pipeline Consumer Reference Group, especially given the challenging circumstances associated with COVID-19. Your contribution was invaluable and has helped shape our plans for the Roma Brisbane Pipeline with a view to delivering better value for all our stakeholders.

Nevenka Codevelle
Group Executive Governance & External Affairs

1 Executive Summary

This overview document provides a high-level summary of the key issues surrounding the proposed revised access arrangement for the Roma Brisbane Pipeline (**RBP**) for the financial years 2023-27 access arrangement period.

The RBP is a covered pipeline under the access regime of the National Gas Law and the National Gas Rules (**NGR**). The RBP is a full regulation pipeline, and the review submission date in the current Access Arrangement is 1 July 2021.

The proposal has been prepared by the service provider, APT Petroleum Pipelines Pty Limited (**Roma Brisbane**), and submitted to the Australian Energy Regulator (**AER**) for approval, in accordance with rule 47A of the NGR.

The AER's Final Decision on the RBP Reference Service Proposal approved two reference services on the RBP:

- Firm Transportation Service – Eastbound
- Firm Transportation Service - Westbound

In response to feedback from a stakeholder APTPPL also proposed that the rebateable services in the current access arrangement be continued in the next access arrangement period. These services are:

- park and loan services (provided on either a firm or interruptible basis)
- in-pipe trading services
- capacity trading services.

This recognises concerns expressed in relation to these services and the difficulty in establishing them as a reference service.

This document outlines the key elements of the Roma Brisbane Proposal but importantly outlines how stakeholder engagement influenced our proposal and, as a reflection to our ongoing commitment to stakeholder engagement, a clear and transparent rationale for why Roma Brisbane has made the proposal outlined.

The key issues presented in this document are:

- the development of reference tariffs for the eastbound and westbound reference services;

- the development of the demand forecast for the pipeline;
- the end of the economic life of significant components of the RBP, and the proposal to accommodate that end of life with an aim towards tariff stability; and

1.1 About the RBP

The RBP was commissioned in its original configuration in 1969. It now consists of a mainline, which is both compressed and looped, and four lateral pipelines; Peat and Scotia laterals, connecting it to coal seam methane gas sources near Peat and Scotia, Swanbank Lateral, feeding into Swanbank Power Station and Lytton Lateral, supplying the Ampol Refinery. The mainline is approximately 440 km long with 34 km of pipeline running through metropolitan Brisbane to Murarrie and Gibson Island. The metro section serves a number of distribution system offtakes.

The original 410 km section from Wallumbilla to Bellbird Park is 273 mm in diameter (DN250). This section is looped with a 406 mm diameter pipeline (DN400). The looping was carried out in several stages, between 1988 and 2002, after the original line had been fully compressed. The metro section was constructed with 324mm diameter (DN300) pipeline.

The Swanbank lateral was completed in 2001 and is 8 km long with a current capacity 52TJ/day. The Peat lateral was completed in the same year (the Scotia extension was completed in 2003) and is 121 km long with a current nominal capacity of 74 TJ/day. The Peat lateral became part of the covered pipeline on 1 January 2006 after APTPPL elected for it to be covered. The 6km Lytton lateral was completed in 2010.

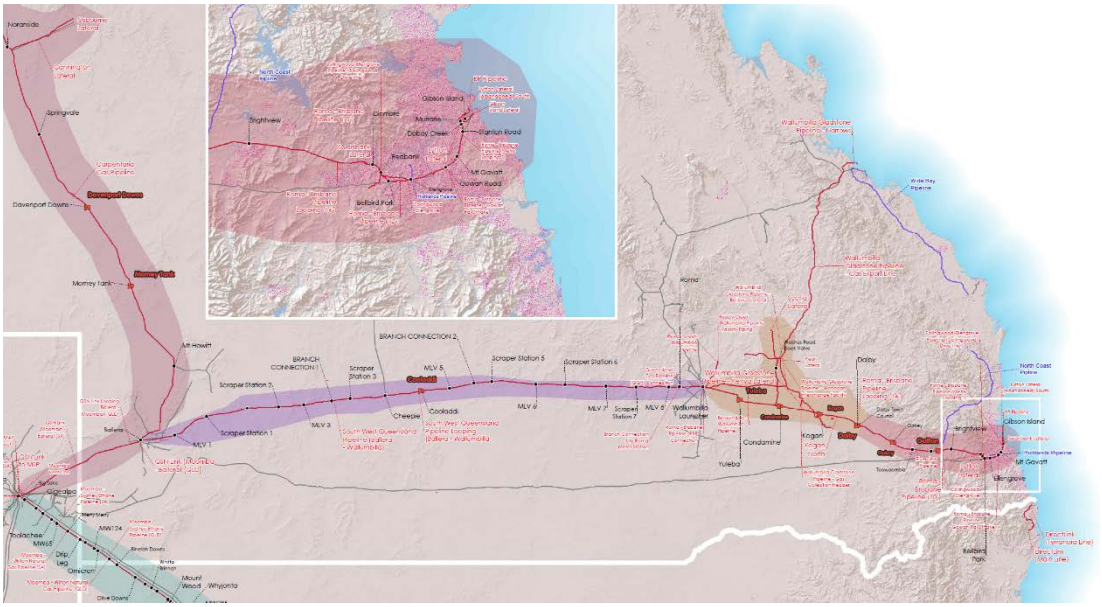
The pipeline originally supplied the Brisbane area with gas from Surat Basin fields close to Roma. In 2001 and 2002 the RBP was extended via the Peat Lateral to enable Coal Seam Methane (CSM) from the Peat and Scotia gas fields to be supplied into south-east Queensland. The RBP also connects with the Queensland Gas Pipeline (QGP), which runs from Wallumbilla to Rockhampton (via Gladstone). This allows Wallumbilla to function as a hub for the supply of gas in Queensland. Over time, additional CSM fields connected to the RBP, providing significant mid-line injections, some of which sought transport westbound to Wallumbilla. Capital expenditure was undertaken in 2015 to make the RBP bi-directional to enable this westbound flow.

There are six compressor stations along the length of the pipeline, although the compressor station at Dalby is the only one still in operation.

The expansions of RBP capacity and the construction of the Lateral pipeline occurred in response to market growth, and were underpinned by contracts negotiated with third parties such as producers, power stations, gas utilities and major industrial customers. The RBP currently receives gas from numerous receipt points and delivers gas to numerous delivery points. Additional receipt and delivery points have been added from time to time.

The geographic location and route of the RBP are shown below.

Figure 1: Roma Brisbane Pipeline - geographic location and route



The principal sections of the RBP are listed below in Table 1.

Table 1: Roma Brisbane Pipeline: principal sections

Section	Length (km)	Diameter (mm)
Wallumbilla to Ellengrove	410	406
Wallumbilla to Bellbird Park	399	273
Bellbird Park to Gibson Island (Metro Section)	40	324/219
Peat Lateral	121	273
Scotia Lateral	24	273
Lytton Lateral	6	273
Swanbank Lateral	8	406

Additional information on the RBP is available on the RBP website, here.

2 Consumer Engagement

This section addresses Roma Brisbane's stakeholder engagement against the factors included in Table 7 of the AER's Framework for considering consumer engagement.

Table 2: The AER's Framework for considering consumer engagement

Element	Weight determined by
Nature of engagement	• Consumers partner in forming the proposal rather than asked for feedback on distributor's proposal • Relevant skills and experience of the consumers, representatives, and advocates • Consumers provided with impartial support to engage with energy sector issues • Sincerity of engagement with consumers • Independence of consumers and their funding • Multiple channels used to engage with a range of consumers across a distributor's customer base
Breadth and depth	• Clear identification of topics for engagement and how these will feed into the regulatory proposal • Consumers consulted on broad range of topics • Consumers able to influence topics for engagement • Consumers encouraged to test the assumptions and strategies underpinning the proposal • Consumers were able to access and resource independent research and engagement
Clearly evidenced impact	• Proposal clearly tied to expressed views of consumers • High level of business engagement, e.g. consumers given access to the distributor's CEO and/or board • Distributors responding to consumer views rather than just recording them • Impact of engagement can be clearly identified • Submissions on proposal show consumers feel the impact is consistent with their expectations

Proof point	• Reasonable opex and capex allowances proposed
	  ○ In line with, or lower than, historical expenditure
	  ○ In line with, or lower than, our top down analysis of appropriate expenditure
	  ○ If not in line with top down, can be explained through bottom up category analysis

2.1 Nature of Engagement

Roma Brisbane's engagement was genuine and collaborative. Roma Brisbane has sought to collaborate with stakeholders where possible and has involved stakeholders in the formulation of solutions to the problems. The key issues identified in this access arrangement proposal relate to the end of life of the DN250 and the treatment of assets within the AER's models.

Roma Brisbane commenced its engagement in April 2020. It held 8 workshops with a Stakeholder Group comprising shippers, large customers, land holders, Governments Departments and Agencies and 2 one-on-one sessions with individual shippers. The aim of this engagement was to seek input from participants on the design phase of the regulatory proposal, and to gain an understanding as to how to make the engagement process as effective as possible.

Roma Brisbane had the challenge of educating a stakeholder engagement group that was familiar with the regulatory arrangements in electricity rather than gas transmission. In particular the importance of flexibility in service offerings to customers and that no such thing as a prescribed or standard control service is desirable for gas customers.

However, the stakeholder group also contained Gas Shippers who are sophisticated users of gas pipeline services and are able to clearly understand and achieve their commercial objectives.

2.2 Breadth and Depth

The Roma Brisbane stakeholder engagement was broad. It covered all the major elements of the RBP access arrangement proposal including:

- Asset lives
- Tariff structures
- Demand forecast
- Access arrangement terms and conditions
- Capital expenditure plans
- The future of the DN250

The sessions were conducted by the subject matter experts who were able to discuss the subject areas in depth. At each session an invitation was extended to stakeholders to identify any topics that they wished to discuss or any questions they had either on the material or on the RBP more generally. All engagement documents are available on the RBP AA website.

2.3 Clearly Evidenced Impact

The proposal reflects months of consultations with stakeholders prior to the submission. All major elements of the proposal were discussed with stakeholders prior to the proposal.

The key ways this proposal reflects feedback from the stakeholders is only minor changes were made to the access arrangement terms and conditions. Consultations were undertaken in relation to potential new queueing arrangements and introducing additional information into the access arrangement document. There was no support from RBP stakeholders to devote the resources to identifying improvement to the operation of the access arrangement terms and conditions.

Stakeholders were consulted directly on the following issues with explanations of the consequences of different options with regard to:

- Combining the original pipeline and pipelines asset class as a mechanism to smooth tariffs for the end of life of the original pipeline
- Reducing the standard asset life equal to the remaining to prevent continual artificial growth in the regulatory life of the assets
- Having a tariff profile in the pricing model similar to that produced by the AER's PTRM model

2.4 Proof Point

Forecast capital expenditure for the next access arrangement period is considerably lower than the amount allowed and incurred for the current access arrangement period.

Forecast operating expenditure is in line with current actual opex .

3 Tariffs

As part of its reference service determination the Australian Energy Regulator established two reference services for the Roma Brisbane Pipeline (RBP) for the next access arrangement period (Financial Years 2023 to 2027). [1]

A reference service is a default service available to users of the Roma Brisbane pipeline that acts as an "anchor point" for all discussions of other services to be offered by the RBP.

3.1 Building block revenue

The reference tariff is designed to recover the building block revenue as determined through the AER's revenue model.

The calculation of the elements of the Building block revenue is set out in section 3.

The results of these calculations are set out in Table 3 below

Table 3: Summary of Building block revenue

Building Block Revenue	2023	2023	2023	2023	2023	Total
Building Block Revenue	41.5	42.6	44.6	45.7	42.1	216.5

All values in this document are in $m Financial Year 2022 Real unless expressed otherwise and all years are financial years unless expressed otherwise. Totals may differ due to rounding.

3.2 Reference and non-reference services

National Gas Rule 93 sets out the basis on which revenue is to be allocated between reference and other services. Broadly, under this requirement revenue is to be allocated in a way that reflects the attribution and allocation of costs. In the context of most gas transmission pipelines, attribution of direct costs between reference and non-reference services is non-existent. The same assets are used to provide reference and non-reference services. There is no cost difference between reference and non-reference services.

This means that the allocation must occur in a manner that is consistent with the revenue and pricing principles.

[1] All years referenced in this document are financial years unless explicitly stated otherwise

The relevant principles, as set out in s24 of the NGL, are:

- The service provider should be given a reasonable opportunity to recover at least the efficient costs of providing reference services
- The service provider should be provided with efficient incentives for investment and provision of pipeline services
- Regard should be had to the economic costs and risks of potential under and over investment in the RBP
- Regard should be had to the economic costs and risks of under and over utilisation of the RBP.

Compliance with these principles is achieved by enabling RBP recovery of its building blocks revenue in a way that does not influence the over or under utilisation in the short or long term.

The effective solution that has been adopted in the past, and we are proposing again, is to convert the building block revenue into the reference tariff(s) using the forecast volumes for all firm transportation services on the RBP as if they were the reference service. This removes incentives to inefficiently pursue non reference services on the RBP and provides Roma Brisbane with the opportunity to recover its efficient costs.

3.3 Allocation of revenue between Eastbound and Westbound reference services.

There is relatively little direct cost associated with the provision of eastbound or westbound services. The forecast asset base at the commencement of the next AA period is $487m.

There is one operational compressor associated with the eastbound service. The commencing value of compression in the asset base is $22m (5% of RAB).

The total value of the asset class dedicated to westbound flows is $4m (1% of RAB) which includes equipment associated with injections and the Wallumbilla withdrawals (western end of RBP).

So the obligation to reflect direct costs in the tariffs has been complied with in the process of setting tariffs as Roma Brisbane has done.

As a starting point any difference between the eastbound and westbound service needs to be justified based on cost or efficiency differences.

Therefore, the commencement of the calculation of the appropriate reference tariff is the tariff for both eastbound and westbound should be the same.

However, the benefits from the presence of prudent discounts differ between the westbound and eastbound service. This needs to be reflected in where the foregone revenue from the discount is recovered.

3.3.1 *Pricing Principles*

As direct costs provide little guidance as to appropriate tariffs, a cost allocation methodology has to be designed which is consistent with the pricing principles.

AS noted above the most relevant of the pricing principles is that relating to promoting efficient use and investment in the pipeline.

There are two issues for the efficient use of the RBP, discussed below.

3.3.2 *Prudent Discounts (confidential)*

Roma Brisbane has proposed two prudent discounts under Rule 96, one related to the eastbound service and one for the westbound service.

Confidential – Customer Privacy

For the westbound service, the RBP competes for some loads with other pipelines in the region. These pipelines have posted tariffs less than the westbound reference tariff derived following the building block procedures under the National Gas Rules. This places the RBP at a competitive disadvantage in securing westbound load. As envisioned in Rule 96(2)(a), a discount is sometimes necessary to respond to competition from other providers of pipeline services. If the RBP is able to attract westbound load at a discounted tariff (as opposed to not being able to attract the westbound

load due to tariffs being higher than competitors'), reference tariffs would be lower than they would otherwise have been.

These are discussed in more detail below.

3.3.2.1 *Confidential – Customer Privacy*

Confidential – Customer Privacy

3.3.2.2 *Competition from other pipelines*

Some users of the Roma Brisbane Pipeline can access the Darling Downs Pipeline (**DDP**) to transport gas westbound to Wallumbilla. In order to do so the shipper needs to have physical access to the DDP through a physical connection, and indeed many of the gas processing plants in the region are connected to both pipelines. The DDP is currently reporting, on the Gas Bulletin Board, more available capacity than the entire westbound RBP forecast demand.

The benefit of pipeline price differentials have a fairly linear relationship with volumes. This means the greater a customer's volume, the greater incentive to switch pipelines created by price differentials.

Roma Brisbane's analysis has identified that Roma Brisbane needs to be able to compete on a level playing field for approximately 20% of RBP westbound volumes in order to have a reasonable probability of achieving the westbound demand forecast.

We have therefore proposed that 20% of the forecast westbound volume be subject to a prudent discount.

The pricing principles that encourage efficient utilisation and investment can only be satisfied where the RBP is not put at a competitive advantage or disadvantage to the DDP. This is best achieved by setting the prudent discount westbound tariff equal to the published tariff on the DDP which is the basis for APA's proposal.

The recovery of the foregone revenue will be calculated into the westbound reference tariff as it is these customers who most benefit from the ongoing presence of the discounted westbound demand.

3.4 Proposed reference tariffs

In the regulation of natural gas transmission pipelines the AER sets a reference tariff for the first year of the access arrangement and sets how the tariff will be adjusted for the duration of the access arrangement (FY2023 to FY2027). These are both set out in the access arrangement document.

The table below sets out the forecast reference tariff.

Table 4: Initial Reference Tariffs

Reference service ($/GJ MDQ/day)	2023
Eastbound	0.5579
Westbound	0.5730

The reference tariff is then adjusted each year for inflation, the revenue previously received from rebateable services and a smoothing factor the "X factor".

Roma Brisbane is proposing to evenly apply the rebateable services adjustment to both the Westbound and Eastbound reference tariffs.

Table 5 below sets out the tariffs assuming an inflation rate of 2% as is used in the forecast PTRM.

Table 5: Forecast Reference Tariffs

Reference service ($/GJ MDQ/day)	2023	2024	2025	2026	2027
Eastbound	0.5579	0.6171	0.6825	0.7549	0.8349
Westbound	0.5730	0.6258	0.6835	0.7465	0.8152

3.5 Tariff adjustments

As part of its final determination the AER sets X factors that "smooth" the reference tariffs over the duration of the access arrangement. The purpose of this is to avoid the volatility from year to year that would occur should the tariff be set to recover the costs of the pipeline in that year.

Roma Brisbane is not proposing to have a path for future RBP westbound tariffs as the determinant of the prudent discount tariff is the competitive tariff - there is no publicly available information as to the future tariff path of competitive tariffs.

Table 6: X factors

X-factor	2023 (Po)	2024	2025	2026	2027
Eastbound	5.7	-8.4	-8.4	-8.4	-8.4
Westbound	3.2	-7.1	-7.1	-7.1	-7.1

Negative x-factors increase the reference tariff and positive X-factors the inverse.

A major factor influencing the tariff outcome is the forecast of demand on the RBP. Roma Brisbane's rationale for the demand forecast is set out in 6.

4 Revenue

RBP's reference tariff is calculated to recover the building block revenue over the financial year 2023 to 27 based on forecast volumes.

Roma Brisbane is anticipating a reduction the required revenue in next the access arrangement. This is facilitated by the following elements:

- Reduction in the return on capital (section 4.3)
- Reduction in capital expenditure (section 4.6)
- Strict control over operating expenditure (section 4.7)

These factors combined have resulted in a lower required revenue in the next access arrangement compared to the current period.

Table 7: Comparison of Building Block revenue across access arrangements

Revenue	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Current AA	52.0	51.4	51.4	43.2	40.4	238.4
Proposed AA	41.5	42.6	44.6	45.7	42.1	216.5

The expenditure and revenue profile that Roma Brisbane has adopted has resulted in a 9% reduction in the revenue requirement from the current access arrangement period.

4.1 Smoothed Revenue

In gas pipeline transmission regulation revenue is smoothed using forecast volumes to convert the building block revenue into a starting reference tariff and a forecast price change called the X-factor.

Table 8 compares the building block revenue with smoothed revenue to demonstrate that, following the calculation of the reference tariffs as set out in section 3, in present value terms they are the same.

Table 8: Building block compared to smoothed revenue

Revenue ($m Nominal)	2023	2024	2025	2026	2027	Present Value
Building Block Revenue	42.4	44.3	47.4	49.4	46.5	202.2
Smoothed Revenue	42.4	43.8	44.6	47.5	52.1	202.2

4.2 Building Block Revenue

The Building Block Revenue is the sum of the individual building block components. These components are set out in Table 9.

Table 9: Building Block Revenue

Building Block	2023	2024	2025	2026	2027	Total
Return on Capital	21.3	21.4	21.0	20.5	20.0	104.1
Regulatory depreciation	3.6	4.4	5.0	5.6	2.6	21.1
Operating Expenditure	19.3	19.4	19.5	19.6	19.7	97.6
Revenue Adjustments	-2.6	-2.6	-0.8	0.0	-0.2	-6.3
Net Tax Allowance	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenue (unsmoothed)	41.5	42.6	44.6	45.7	42.1	216.5

In the sections below Roma Brisbane will provide more detail on each .

4.3 Return on capital

The return on capital is determined by the rate of return and the Regulatory asset base.

Roma Brisbane has calculated the rate of return consistent with the AER's Rate of Return Instrument. A number of aspects of this calculation change with time so the AER's final determination rate of return will numerically differ for reasons that are impossible for Roma Brisbane to avoid. However, to aid stakeholders understand drivers of the reference tariff outcomes we note that the value of the return of capital is lower in the forecast than in the current access arrangement. See Table 10.

Table 10: Rate of Return

Return on Capital	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Forecast AA	21.3	21.4	21	20.5	19.9	104.1
Current AA	26.4	27.0	26.8	25.7	25.0	130.9

Because the asset base is remaining stable over the forecast (see section 4.4) as a result of reductions in capital expenditure (see section 4.6) this dollar difference is being largely driven by the reduction in the regulated rate of return Table 11 sets out the real rate of return for each year of the current and forecast access arrangement period.

Table 11: Real Rate of Return across access arrangements

Post-tax Real Return on Equity	Year 1	Year 2	Year 3	Year 4	Year 5
Current AA	4.5%	4.5%	4.5%	4.5%	4.5%
Forecast AA	2.9%	2.9%	2.9%	2.9%	2.9%
Real Pre-tax Return on Debt					
Current AA	2.2%	2.1%	2.1%	1.9%	1.8%
Forecast AA	1.9%	1.9%	1.9%	1.9%	1.9%
Real Vanilla WACC					
Current AA	3.1%	3.1%	3.1%	2.9%	2.8%
Forecast AA	2.3%	2.3%	2.3%	2.3%	2.3%

Both the return on equity and the return on debt are materially lower in the forecast period than in the current period. Resulting in a lower rate of return (Real Vanilla WACC).

4.4 Regulatory Asset Base

Consistent with a strong focus on cost control there will be minimal growth in the regulatory asset base over the forecast period. The outcomes of the operation of the AER's Transmission Roll Forward model is set out in Table 12.

Table 12:Transmission Asset Base over forecast period

Regulatory Asset Base	2023	2024	2025	2026	2027
Opening Capital Base	497	494	494	497	496
Capex	12	17	21	10	15
Depreciation	-16	-17	-18	-12	-10
Closing Capital Base	494	494	497	496	501

RBP's total asset value grows by less than 0.7% over the forecast access arrangement period. Demonstrating a significant reduction in the growth of the RBP.

The table below sets out the closing asset base for the previous, current and forecast access arrangement periods.

Table 13: Closing Asset base across access arrangements

Closing RABs	$m	change $m
Financial Years 23-27	501	4
Financial Years 18-22	497	13
Financial Years 13-17	485	70
Financial Year 08-12	415	

This reduction in growth in the RAB reflects an ongoing reduction in expenditure on the RBP as a result in tight cost control by Roma Brisbane and reduction in the growth of demand for new pipeline capacity in the Brisbane area.

The biggest factor specific to this access arrangement that affects the asset base is the future of the 250mm pipeline the rationale for its treatment in this access arrangement proposal is set out in section 5.

4.5 Historic Capex

In the current access arrangement period the capital expenditure on the RBP has primarily been focused on maintaining the integrity and reliability of the pipeline.

Table 14: Actual and estimated capital expenditure for the current access arrangement period

Year	2018	2019	2020	2021	2022	Total
Capital Expenditure	13.3	18.7	22.4	11.6	16.3	82.4

There are three major projects on the RBP in the current access arrangement period. They relate to maintaining the reliability and safety in the presence of direct and current threats to its reliability and safety. They are:

- Pipeline Integrity Management
- Urban Risk Reduction
- Stay in business

Together they account for 68% of the actual and estimated capital expenditure from the current access arrangement period. They are capital expenditure on these items are set out in Table 13.

Table 15: Historic capex on short term threats to pipeline reliability

Project ($m FY22)	2018	2019	2020	2021	2022	Total
Pipeline Integrity Management	4.4	8.0	10.5	7.3	7.0	37.2
Urban Risk Reduction	0.1	1.7	4.5	0.0	0.0	6.3
Stay in business	4.3	5.2	1.1	0.6	0.8	12.0
Total	8.8	15.0	16.1	7.9	7.8	55.5

4.6 Forecast capex

Roma Brisbane is forecasting a substantial reduction in capital expenditure in the next access arrangement period.

Roma Brisbane is forecasting no capital expenditure relating to expansion or extension of the pipeline in the financial year 2023-27 access arrangement period.

The end of life of the DN250 will result in a reduction in maintenance and replacement costs on that pipeline

As noted the forecast capital expenditure is expected to be considerably less than what was allowed and forecast for the current access arrangement. Table 16 compares the two profiles. Capital expenditure forecast for the next access arrangement is only 38% of capex expected in this period.

Table 16: Roma Brisbane Forecast Capex vs Actual Capex

Capex ($m FY22)	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Current AA capex	13.3	18.7	22.4	11.6	16.3	82.4
Forecast AA	16.3	3.5	3.3	2.6	5.7	31.4

The two largest capex projects, comprising over 60 per cent of the total capex forecast, are the Supply Security Project and the Pipeline Integrity Program.

- the Supply Security project is to provide security of supply to those customers currently connected to the DN250 as the DN250 reaches the end of its economic life and is transitioned to “make safe” status. This project will connect those customers currently connected only to the DN250 pipeline to the DN400 pipeline to ensure supply continuity. Total forecast cost of this project over the 5 year period is $4.7 million.
- The Pipeline Integrity Program consists of a combination of in-line inspection, anomaly assessment and defect repair, and cathodic protection upgrades, focused on the DN400 and DN300 metro section.

The goal of this program is to ensure that pipelines that are safe, fit for purpose and able to be operated in accordance with the relevant legislation and standards. The forecast cost for this program is approximately $13.1 million in the forthcoming access arrangement period.

Roma Brisbane has also included a forecast for Transformation and Technology (T&T) expenditure. APA's legacy information technology systems are no longer supported and need to be replaced. There is currently some uncertainty regarding the extent to which upgraded system costs will be capital or operating (Software as a Service) in nature, as systems move to cloud computing. Roma Brisbane has currently included half the forecast costs as capital and half the forecast costs as operating expenditure; we anticipate greater clarity on this aspect before lodging the revised proposal. It should be noted that Roma Brisbane bears only a proportion of the costs incurred by the broader APA Group, and therefore benefits from APA's economies of scope and scale. The amounts allocated to Roma Brisbane are lower than the amounts that would be incurred were Rome Brisbane to acquire dedicated systems. Forecast T&T capex over the forthcoming access arrangement period are approximately $5.4 million.

Total forecast capex over the period is summarised below:

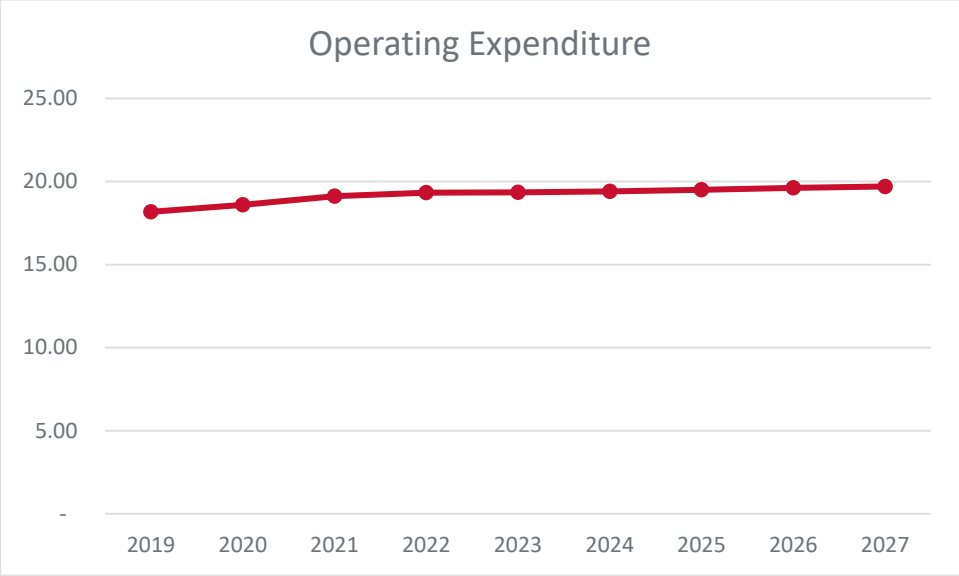
Table 17: Forecast Capital Expenditure by project

Projects	2023	2024	2025	2026	2027	Total
Pipeline Integrity	7.0	1.3	1.1	1.0	2.6	**13.1**
Supply Security Project	4.7	-	-	-	-	**4.7**
SCADA Hardware Lifecycle Management	0.8	-	-	-	-	**0.8**
Battery Charger Replacement	0.2	-	-	-	-	**0.2**
Liquids Removal	1.0	-	-	-	-	**1.0**
Valve Upgrade	0.1	0.1	-	-	-	**0.2**
Dalby Communication Relocation	0.1	-	-	-	-	**0.1**
Pipeline Relocation	-	0.3	-	-	-	**0.3**
Minor Projects	0.4	0.4	0.4	0.4	0.4	**2.0**
Group IT	1.1	1.1	1.1	1.1	1.1	**5.4**
Access Arrangement	0.7	0.1	-	-	-	**0.8**
Property Leases	-	-	0.6	-	1.4	**2.0**
Vehicle Leases	0.1	0.1	0.1	0.1	0.1	**0.6**

4.7 Forecast opex

Roma Brisbane is not anticipating significant changes in operating expenditure in the next access arrangement period. This is reflected in the forecast for RBP operating expenditure.

Figure 2: Operating expenditure 2019-2027



4.7.1 Forecasting method

RBP has used a revealed cost method – the base, step and trend method – to forecast total operating expenditure for the next access arrangement period. When applying the base, step and trend method, RBP chose FY2020 as the base year.

In applying the base, step, trend approach, Roma Brisbane has:

- removed Corporate Lease Assets from opex to be consistent with the accounting policy changes
- trended the recurrent base year costs forward across the next access arrangement period applying a series of indices to reflect expected increases in costs
- adjusted for step changes as discussed below.

The forecast of total operating expenditure for the next access arrangement period includes a forecast of debt raising costs. This forecast of debt raising costs is the forecast generated by the Post-tax Revenue Model.

As discussed above, many of APA's legacy information technology systems are obsolete and require replacement. However, in the transition to cloud computing, some system costs which were historically capitalised may now, under new IFRS accounting standards, be required to be treated as operating costs. For the purposes of this access arrangement proposal, Roma Brisbane has recorded half the forecast IT costs as capital and half as operating expenditure. We anticipate having greater clarity on the required treatment of these costs in the coming months.

The forecast operating cost is consistent with the requirements of the national gas rules and is consistent with finding the long term lowest cost way of transporting natural gas to customers connected to the RBP.

5 The Future of the pipeline

5.1 Background

The RBP is one of the oldest natural gas pipelines in Australia. The original 10 inch, or DN250, pipeline came into operation in 1969 with an expected life of 50 years.

Over time, this pipeline was expanded by what is referred to as "looping", the construction of a second 16 inch, or DN400, parallel pipeline. The looping over time was constructed to run from Wallumbilla through to a new Brisbane city gate at Ellengrove.

Australian Standard AS2885 for gas pipelines requires that pipelines be assessed for physical condition, generally every 10 years or more frequently depending on condition. The most effective method physical assessment is a process called "in-line inspection". This involves sending monitoring equipment (an "inspection tool") through the pipeline under pressure to gauge the condition of the walls of the pipe.

This assessment was conducted in 2017 and 2018 on the DN250 pipeline of the RBP. This assessment detected many "features", or defects, in the pipeline. A feature can represent a number of abnormalities in the pipe - of particular concern is where the feature is a crack or corrosion on the pipeline.

There had been a significant improvement in pipeline inspection technology between the 2017 runs of the inspection tool and those conducted 10 years earlier. The modern inspection tool detected features that the previous technology would not have been able to detect.

In-line inspection results are first verified through a series of "dig-ups". As the name suggests, this is a process of excavating and exposing the pipeline and using sensor equipment to investigate any features found. The verification process has confirmed many of the features discovered through the in-line inspection are present in the pipeline (i.e. they are not false positives).

5.2 DN250 condition

The in-line inspection and verification process has revealed a high level of corrosion on the DN250 pipeline. While the rate of growth in the corrosion can only be calculated with precision when there are multiple data points for size

at particular locations, engineering modelling can be used to estimate the growth rates.

This modelling that has been driving the dig-up program to repair features on the pipeline, and this activity has formed a significant part of the expenditure in the current access arrangement period. In turn, the dig-up information is fed back into the model to refine the results over time.

In addition, work has been undertaken on the cathodic protection system to both improve its performance in reducing the growth rate of further corrosion on the DN250, and to reduce the negative impact of the DN250 condition on the cathodic protection also covering the DN400.

The operating pressure of the DN250 has also been reduced as both a safety and reliability measure and a way to postpone the need for further expenditure on dig-ups and other repairs. This reduction in pressure has resulted in a reduction in RBP capacity as reported on the Gas Bulletin Board.

However, analysis has revealed that significant levels of expenditure, of a similar level to what has been experienced in recent years, is necessary each year in order to maintain the DN250 at its current reduced pressure (and capacity). To return it to a higher pressure would require more expenditure.

5.3 Proposed action

Currently, there are 4 customers directly connected to the DN250 who cannot receive their gas from another source. To reduce the ongoing expenditure related to the DN250, Roma Brisbane is proposing to undertake work to connect those customers to the DN400 pipeline. This project to transfer the customers over is expected to take between 18-24 months. At that point Roma Brisbane will complete work to "make safe" the DN250.

This will mark the end of the economic life of the DN250 pipeline in relation to its current use for high-pressure natural gas transmission.

While "economic life" is defined in neither the National Gas Law nor the National Gas Rules, in economic terms the end of the life of an asset is efficiently reached where that service can be provided in lower NPV terms by a different solution than the ongoing operation of that asset. The cost of transferring customers over to the DN400 is less than the cost of maintaining the DN250 in operation, thus marking the end of the economic life of the DN250.

The National Gas Rules require that each asset or group of assets is depreciated over the economic life of that asset or group of assets[2] and so as to allow, as far as reasonably practicable, for adjustment reflecting changes in the expected economic life of a particular asset or particular group of assets.

Reducing the remaining regulatory life of the DN250 to two years, the time period aligned with the connection of the customers to the DN400, would be entirely consistent with these requirements.

However, Roma Brisbane is conscious that depreciating the DN250 over the remaining two years of its economic life would have a significant effect on tariffs. Roma Brisbane has therefore proposed an alternate treatment, as discussed below.

5.4 Merging asset classes

Roma Brisbane proposes to merge the "Original pipeline" regulatory asset class with the "Pipelines" regulatory asset class to form a single "Pipelines" asset class.

Under the NGR building block approach, asset classes are created for the purposes of calculating depreciation on the asset. The requirement for a common depreciation rate is that an asset could be classified either as a single asset or a class of assets. These are not defined terms in the NGR but a plain English interpretation of the "group of assets" could reasonably incorporate a group of different pipes such as would be formed by the group that Roma Brisbane is proposing to form.

The remaining life of the amalgamated asset class will be calculated based on a value weighted average life. This is to make the new, combined asset class consistent the NGR obligation that the depreciation be set so that it would only recover the value of the asset once.

Absent this proposed change, depreciating the DN250 over its remaining economic life would result in approximately $44m in depreciation in each of the first two years of the forthcoming access arrangement period, relative to a "usual" depreciation building block amount of about $10–15m. The effect of this change is to smooth the depreciation of the approximately $88m

[2] NGR 89(1)(b)

"original pipeline" value over the remaining asset life of the wider class, rather than concentrate it over two years. After adjusting for inflation, Roma Brisbane's proposal means a recovery of $2-6m per year.

Roma Brisbane is concerned that, absent this proposed change to depreciable asset classes, the impact on tariff volatility would be dramatic, and would be likely to affect the efficiency of operation in the current access arrangement and present a significant barrier to the new uptake of gas transportation to locations along the RBP.

Roma Brisbane's proposal is also in the long term interests of our customers as it avoids a price shock and will encourage the efficient use of the pipeline going forward.

6 Demand

The forecast for pipeline demand in the upcoming access arrangement period has been derived by stratifying the market into the four sectors with unique demand drivers: the eastbound retail (residential, commercial and small industrial) load; the eastbound major industrial load; the eastbound gas-fired power generation (**GPG**) load; and the westbound load.

6.1 Eastbound retail

The demand for the eastbound retail load has been derived from a review of contracts currently in place. Where those contracts extend through the access arrangement period, they are assumed to be in place for the duration of the period. Where current contracts expire during the access arrangement period, an assessment is undertaken of the probability of the contract being renewed, and the level at which it is likely to be renewed.

6.2 Major industrial

The RBP serves a number of major industrial customers who contract directly with producers for their gas supply, and directly with Roma Brisbane for gas transportation – that is, they are not served by a retailer.

Confidential – Customer Privacy

6.3 GPG

The demand for gas (and gas transportation services) by gas-fired power generators is driven much more by circumstances in the electricity market and the gas market. The GPG units served by the RBP are peaking units (as opposed to base load units) which operate only under high-priced electricity market conditions, generally at a usage factor of less than 5 per cent.

Roma Brisbane has engaged the assistance of an expert firm knowledgeable in electricity markets and the economics of GPG units to undertake an analysis of the gas and electricity market conditions under which the various GPG units are likely to be dispatched, assuming they bid their power generation into the National Electricity Market at a price exceeding the marginal cost of production.

Roma Brisbane has applied the average demand to derive a "long term firm equivalent" demand forecast for this load.

6.4 Westbound

The demand for westbound services on the RBP is driven by the production of gas in the Surat Basin. This gas is used to meet the needs for customers in all the major demand centres, including Gladstone export facilities. It does this by arriving in Wallumbilla, and flowing along other pipelines, such as the South West Queensland pipeline, to demand centres.

The demand for westbound transportation services is driven primarily by gas trading opportunities, which are often very short term in nature. Shippers are expected to contract for short periods as opportunities arise.

Roma Brisbane engaged ACIL Allen, experts at forecasting the national gas market to forecast westbound demand for pipeline services. A copy of the ACIL Allen report is attached.

Roma Brisbane has applied the average demand produced by ACIL Allen to derive a "long term firm equivalent" demand forecast for this load.

6.5 Total

In summary the RBP demand forecast, in TJ/day, is as follows:

Table 18: Forecast demand

Source	2023	2024	2025	2026	2027
Retail	74.4	74.4	74.4	74.4	74.4
Major industrial	56.6	54	52.5	52.5	52.5
GPG	6.2	4.1	3.5	4.8	6.8
Total Eastbound	**137.2**	**132.5**	**130.4**	**131.7**	**133.7**
Westbound	85	80	70	65	65
Total	**222.2**	**212.5**	**200.4**	**196.7**	**198.7**

6.6 Stakeholder Feedback

Feedback from shippers was used in establishing the retail and major industrial demand for eastbound demand. The forecast reflects the contracting approach and discussions with shippers around their contracted capacity in financial year 2020 and their expectations for renewal.

7 Access Arrangement document

The proposed access arrangement document has been revised from the current version.

The most significant reform has been to incorporate the change from a single reference service to two separate direction-based reference services. This is consistent with the application of the AER's reference service determination.

As Roma Brisbane had indicated to stakeholders during the consultations on the reference service proposal we are proposing to reduce the minimum term for the reference service from 3 years to 1 year.

There have also been minor changes to make the access arrangement consistent with the NGR in particular the arrangements for the National Gas Day, and requiring the application of regulation to extensions and expansions on the pipeline.

8 Regulatory Asset Base

8.1 Changes to asset classes

Roma Brisbane has proposed a number of changes to asset classes in the PTRM.

First is the amalgamation of the "Original Pipeline" and "Pipelines" asset classes into a single "Pipelines" asset class, as discussed in section 5.4 above. As discussed above, this is accomplished on a weighted average basis to ensure that no assets are depreciated more than once.

Roma Brisbane proposes to remove a number of disused asset classes, where the assets in those classes have been fully depreciated. This has no impact on the forthcoming access arrangement.

8.2 Reduction in standard asset lives in PTRM

There is, at present, considerable uncertainty about the longer-term outlook for the energy sector, and for gas transmission pipelines in particular, and there is uncertainty about the timing of sectoral change.

Transmission pipeline asset lives can no longer be assumed to be extendable over indefinitely long periods through major maintenance and replacement of failed, or about-to-fail, components. When significant new investment is thought to be required - for example, in an end-of-life replacement of a compressor unit - decision making, which is necessarily forward looking, can no longer assume that the large pipeline system, of which the compressor unit is only a part, will continue in existence for the life of that new unit (and possibly beyond).

At the commencement of the next access arrangement period, the existing RBP pipeline assets will have a remaining life of 49.5 years. Currently, there is insufficient information to justify a reduction in this remaining life.

The remaining life of existing pipeline assets is, however, relatively long. No assumption can be made today that the existing RBP will be replaced, in about 50 years, with similar assets which would then have an expected life of some 80.0 years (the current standard life).

New assets, created by new capital expenditure, will be added to the RBP, but these will be largely for major maintenance (for example, in-line inspection and validation excavations ("dig ups"), and cathodic protection upgrades)

and the replacement of failed or about-to-fail components (for example, valve actuators, programmable logic controllers (PLCs), communications equipment, batteries and battery chargers). These new assets will not actually extend the life of the existing pipeline. New capital expenditure is not expected to create new assets which might operate as "stand alone" pipelines outside of the existing pipeline system into which those assets are to be incorporated.

If the current estimate of average remaining life of 49.5 years represents an upper limit on the life of the RBP, and there is no expectation that those existing assets will be replaced with similar assets after that period, any new pipeline assets will cease to have economic value at the end of the life of the larger RBP system of which they will become a part. New pipeline assets created during the next access arrangement period should not, in these circumstances, significantly extend the average remaining life of the existing assets. This can be achieved by setting the standard life for new pipeline assets equal to the remaining life of existing assets. The standard life for new pipeline assets should be set at 49.5 years.

Compressors, and regulators and meters, have previously had standard lives of 35.0 and 40.0 years respectively. New compression, regulator and metering assets, if installed during the next access arrangement period, could be fully depreciated within the span of the remaining life of the existing pipeline assets. However, new standard lives equal to the remaining lives of the existing assets in each class have been proposed. This should ensure that the average lives of the assets in each of these two asset classes remains at approximately the current average remaining life for the class. It should allow, in conditions of potential (but currently uncertain) declining pipeline use, clear assessments to be made of whether assets (compressors, regulators, meters) should be replaced at intervals which are not being arbitrarily extended by major maintenance work, or by component replacement, which allows service provision to continue, but which does not actually extend asset lives. The standard lives for compressors, and for regulators and meters, should be set at 25.9 years, and 36.7 years, respectively.

Before proceeding, Roma Brisbane raised the issue of changes to the standard asset lives for pipelines, compressors, and regulators and meters with the RBP stakeholder group. The group did not express any concerns about such changes.

The standard asset lives applied in the Post-tax Revenue Model have, therefore, been changed from the standard asset lives approved in the AER's final decision for the current access arrangement. The changes are shown in Table 19.

Table 19: Standard asset lives and proposed standard lives

Asset class	Standard life	Proposed standard life
Pipelines	80	49.5
Compressors	35	25.9
Regulators and meters	40	36.7

These changes are necessary to ensure prudent capital expenditure decision making under uncertainty. No change has been made to the standard tax asset lives for existing asset classes approved for the current access arrangement.