DRAFT DECISION
Roma to Brisbane Gas Pipeline Access Arrangement 2017 to 2022

Attachment 7 – Operating expenditure

July 2017

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on the access arrangement for the Roma to Brisbane Gas Pipeline for 2017–22. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 - Services covered by the access arrangement

Attachment 2 - Capital base

Attachment 3 - Rate of return

Attachment 4 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

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Attachment 10 - Reference tariff setting

Attachment 11 - Reference tariff variation mechanism

Attachment 12 - Non-tariff components

Attachment 13 - Demand

Contents

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
ATO	Australian Tax Office
capex	capital expenditure
CAPM	capital asset pricing model
CPI	consumer price index
DRP	debt risk premium
ECM	(Opex) Efficiency Carryover Mechanism
ERP	equity risk premium
Expenditure Guideline	Expenditure Forecast Assessment Guideline
gamma	Value of Imputation Credits
MRP	market risk premium
NGL	National Gas Law
NGO	national gas objective
NGR	National Gas Rules
NPV	net present value
opex	operating expenditure
PTRM	post-tax revenue model
RBA	Reserve Bank of Australia
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STTM	Short Term Trading Market
TAB	Tax asset base
UAFG	Unaccounted for gas
WACC	weighted average cost of capital
WPI	Wage Price Index

7 Operating expenditure

Operating expenditure (opex) is the operating, maintenance and other non-capital expenses, incurred in the provision of pipeline services.[1] Forecast opex is one of the building blocks we use to determine a service provider's total revenue requirement.

This attachment outlines our assessment of APT Petroleum Pipelines Limited's (APTPPL's) proposed opex forecast for the 2017–22 access arrangement period.

7.1 Draft decision

Our draft decision is to accept APTPPL's opex forecast of $72.1 million ($2016–17) over the 2017–22 access arrangement period.[2] We are satisfied the forecast of total opex APTPPL proposed reasonably reflects the opex criteria.[3]

Our assessment approach, as detailed below, is to develop an alternative estimate of APTPPL's total opex requirements to test whether APTPPL's proposal meets the opex criteria. We have not included some aspects of APTPPL's proposal in our alternative estimate. However, they are offset by other factors with the result that overall there is not a material difference between our estimate and APTPPL's proposal.

We assess the efficiency of the overall level of forecast opex proposed by APTPPL, as an element of the *total* revenue requirement. Under the ex-ante regulatory framework, it is for APTPPL to decide how it will meet its obligations in delivering its services, including which specific opex projects it will undertake.

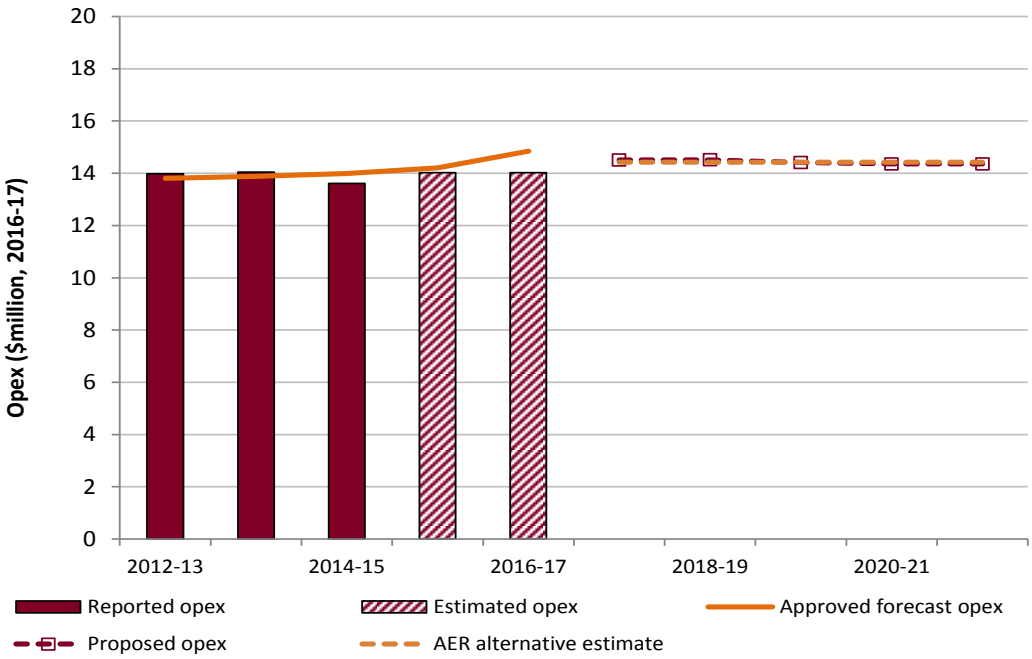
Figure 7.1 shows our draft decision and APTPPL's proposal compared to its past allowance and past actual expenditure. APTPPL's proposal represents a 1.7 per cent increase compared to its opex spend in the 2012–17 access arrangement period.

1 NGR, r. 91.

2 Including debt raising costs.

3 NGR, rr. 91, 74.

Figure 7.1 Our draft decision compared to APTPPL's past and proposed opex ($ million, 2016–17)



Source: APTPPL, Proposed reset RIN, AER analysis.

Note: Includes debt raising costs.

7.2 APTPPL's proposal

APTPPL proposed total opex of $72.1 million ($2016–17) for the 2017–22 access arrangement period (see Table 7.1).[4]

Table 7.1 APTPPL's proposed opex ($million, 2016–17)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Total opex excluding debt raising costs	14.3	14.3	14.2	14.1	14.1	70.9
Debt raising costs	0.3	0.3	0.3	0.3	0.3	1.3
Total opex	**14.5**	**14.5**	**14.4**	**14.4**	**14.4**	**72.1**

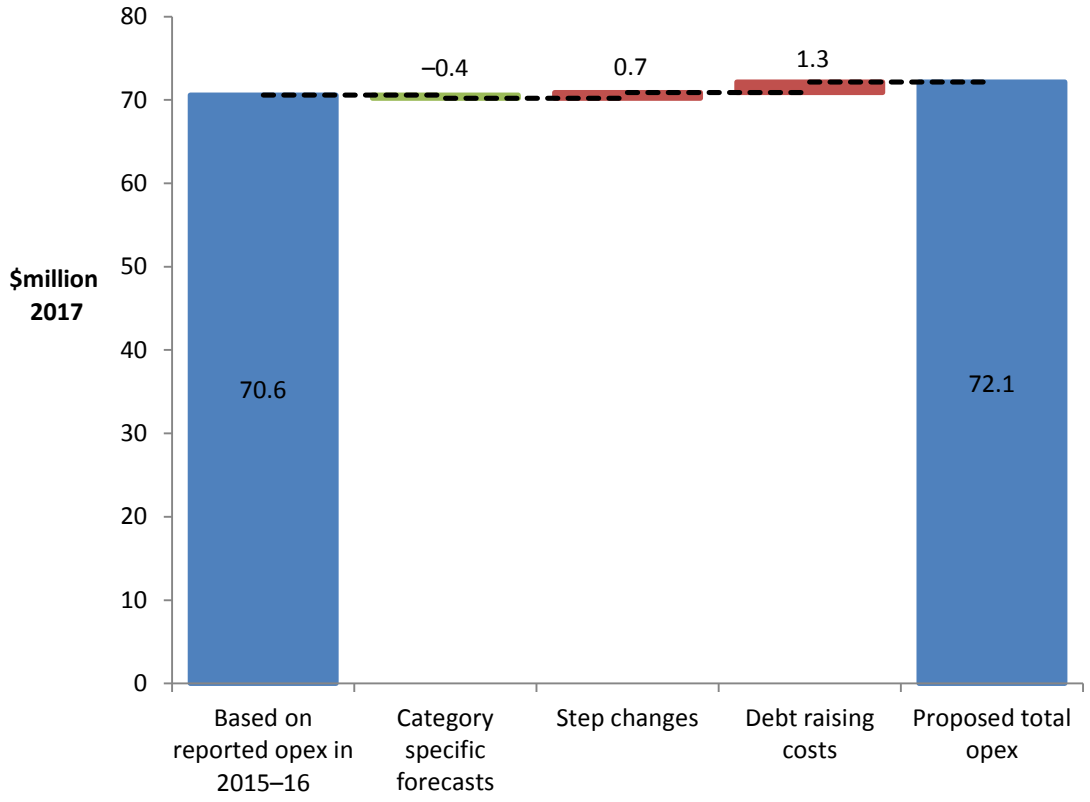
Source: APTPPL, *Roma to Brisbane Pipeline 2016–21, proposed PTRM*, September 2016.

Note: Numbers may not add up due to rounding.

In Figure 7.2 we separate APTPPL's proposed opex into the different elements that make up its forecast.

[4] Including debt raising costs.

Figure 7.2 APTPPL's opex forecast ($million, 2016–17)



Source: APTPPL, *Roma to Brisbane Pipeline 2016–21, proposed opex model and PTRM*, September 2016.

We describe each of these elements below:

- APTPPL used the estimated opex it incurred in 2015–16 as the base for forecasting its opex over 2017–22. If no adjustments were made, this would lead to a base opex of $70.6 million ($2016–17), excluding debt raising costs.
- APTPPL did not forecast any growth in prices, output or productivity.
- APTPPL removed the amount it incurred for major expenditure jobs (MEJs) from its base opex, reducing its opex forecast by $0.8 million ($2016–17). APTPPL then included a category specific forecast of $0.4 million ($2016–17) for major expenditure jobs. Removing these costs from the base year and including a category specific forecast reduced the total opex forecast by $0.4 million ($2016–17).
- APTPPL forecast debt raising costs of $1.3 million ($2016–17).
- APTPPL proposed two step changes. These comprised the DEWS levy ($0.4 million) and DRM levy ($0.3 million). This increased its total opex forecast by $0.7 million and accounts for 1.0 per cent of APTPPL's proposed opex.

We received no stakeholder submissions in relation to APTPPL's opex forecast.

7.3 AER's assessment approach

Our role is to decide whether or not to accept a business' forecast opex. We approve the business' forecast opex if we are satisfied that it is consistent with the opex criteria:

> Operating expenditure must be as such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.[5]

In determining whether forecast opex is consistent with the opex criteria we apply the forecasting and estimate requirements under the NGR.[6]

Our approach is to assess the business' forecast opex at a total level, rather than to assess individual opex projects. To do so, we develop an alternative estimate of total opex using a 'top-down' forecasting method, known as the 'base–step–trend' approach.[7] The advantage of this forecasting approach is that it largely relies on the business' aggregate historic ('revealed') cost that is shown to be sufficient for the business to operate under its existing regulatory obligations. This contrasts with building a total opex forecast from the 'bottom up' using individual opex category or project forecasts. The disadvantage of the bottom-up approach is that it is more susceptible to forecasting risk given the business has an incentive to inflate its forecasts.

We compare our estimate with the business' total opex forecast to form a view on the reasonableness of the business' proposal. If we are satisfied the business' total forecast meets the NGR requirements, we accept the forecast. If we are not satisfied, we substitute the business' forecast with our alternative estimate.

In making this decision, we take into account the reasons for the difference between our alternative estimate and the business' forecast, and the materiality of that difference. We also take into consideration the interrelationships between our opex forecast and the other constituent components of our decision, such that our decision is likely to contribute to the achievement of the NGO.[8]

We develop our alternative estimate of total opex using the base-step-trend forecasting approach, which is summarised in figure 7.3. Further explanation of the rationale behind our forecasting method can be found in our draft decisions for AusNet Services' and Multinet's gas access arrangements for 2018–22.[9] These are available on our website.

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5 NGR, rr. 91 and 40(2).

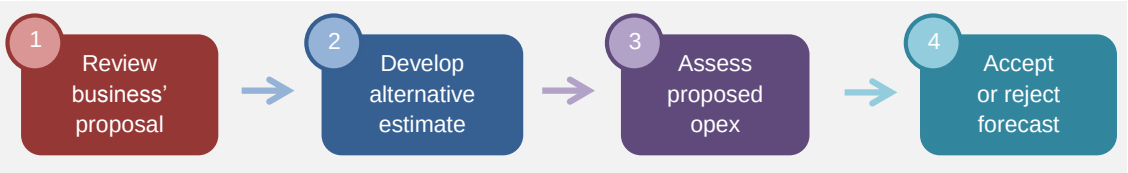
6 NGR, r. 74(2). A forecast or estimate must be arrived at on a reasonable basis and must represent the best forecast or estimate possible in the circumstances.

7 A 'top-down' approach forecasts total opex at an aggregate level, rather than forecasting individual projects or categories to build a total opex forecast from the 'bottom up'.

8 NGL, s28(1).

9 AER, *Draft decision AusNet Services access arrangement 2018–22, Attachment 7 Operating Expenditure*, June 2017, section 7.3.

Figure 7.3 Our opex assessment approach



1. Review business' proposal

We review the business' proposal and identify the key drivers.

2. Develop alternative estimate

Base

We use the business' opex in a recent year as a starting point (revealed opex). We assess the revealed opex (e.g. through benchmarking) to test whether it is efficient. If we find it to be efficient, we accept it. If we find it to be materially inefficient we may make an efficiency adjustment.

Trend

We trend base opex forward by applying a forecast 'rate of change' to account for growth in input prices, output and productivity.

Step

We add or subtract any step changes for costs not compensated by base opex and the rate of change (i.e. costs associated with regulatory obligation changes or capex/opex substitutions).

Other

We include a 'category specific forecast' for any opex component that we consider necessary to be forecast separately.

3. Assess proposed opex

We contrast our alternative estimate with the business' opex proposal. We identify all drivers of differences between our alternative estimate and the business' opex forecast. We consider each driver of difference between the two estimates and go back and adjust our alternative estimate if we consider it necessary.

4. Accept or reject forecast

We use our alternative estimate to test whether we are satisfied the business' opex forecast meets the opex criteria and other NGR requirements. We accept the proposal if we are satisfied.

If we are not satisfied the business' opex forecast meets the opex criteria and other NGR requirements we substitute it with our alternative estimate.

AER, *Draft decision Multinet Gas access arrangement 2018–22, Attachment 7 Operating Expenditure*, June 2017, section 7.3.

7.4 Reasons for draft decision

Our draft decision is to accept APTPPL's opex forecast of $72.1 million ($2016–17) over the 2017–22 access arrangement period.[10] Having regard to our alternative estimate, we are satisfied the forecast of total opex APTPPL proposed complies with the opex criteria[11] and satisfies the criteria for forecasts and estimates.[12]

We have accepted APTPPL's proposed total opex of $72.1 million because it is very close to our alternative estimate of $72.0 million—that is, there is not a material difference between our alternative estimate and APTPPL's proposal.[13]

Table 7.2 compares the differences between the components of our alternative estimate and APTPPL's proposal. While the components of our forecasts are different, the differences broadly offset each other such that our total opex forecasts are not materially different.

The differences between our forecasts are:

- we included six months of CPI adjustment, which increased the base year relative to APTPPL's proposed base year
- we left major expenditure jobs in the base year rather than including a category specific forecast, which increased our forecast relative to APTPPL's forecast
- we did not include the two step changes APTPPL proposed, which decreased our forecast relative to APTPPL's forecast
- within the rate of change, we included price growth and productivity growth. However, these components offset each other resulting in a zero overall rate of change. APTPPL proposed zero for all components of the rate of change.

[10] Including debt raising costs.
[11] NGR, r. 91.
[12] NGR, r. 74.
[13] Includes debt raising costs.

Table 7.2 Our alternative estimate compared to APTPPL's proposal ($ million, 2016–17)

	APTPPL	Our alternative estimate	Difference
Based on reported opex in 2015–16	70.6	70.8	0.2[a]
Price growth	–	1.1	1.1
Productivity growth	–	–1.1	–1.1
Step changes	0.7	–	–0.7
Category specific forecasts	–0.4	–	0.4
Debt raising costs	1.3	1.2	–0.1
Total opex	**72.1**	**72.0**	**–0.2**

Source: *Roma to Brisbane Pipeline 2016–21, proposed opex model*, September 2016, AER draft decision opex model.

Note: Numbers may not add due to rounding.

[a] The difference between our base opex and APTPPL's base opex is because we applied an additional six months of CPI to convert the base from mid-year to end-of-year dollars.

We briefly discuss the components of our alternative estimate below. Full details of our alternative estimate are set out in our opex model available on our website.

7.4.1 Base opex

We have relied on APTPPL's *estimated* opex in 2015–16 to forecast its opex over the 2017–22 access arrangement period, consistent with APTPPL's proposal. Our final decision will reflect AGN's *actual* opex in 2015–16.

Our alternative estimate includes a base opex amount of $70.8 million ($2016–17). This is marginally higher than APTPPL's base year as we applied an additional six months of CPI to forecast end-of-year dollars ($2016–17) rather than mid-year dollars.

APTPPL was subject to the incentives of an ex ante regulatory framework in the 2012–17 period and we have not been presented with evidence to suggest that APTPPL's revealed costs in 2015–16 are materially inefficient. We therefore consider it reasonable to rely on APTPPL's estimated opex in 2015–16 to forecast base opex.

7.4.2 Rate of change

Once we estimate opex in the final year of the current period, we apply a forecast annual rate of change to forecast opex for the 2017–22 access arrangement period. This accounts for forecast growth in prices, output and productivity.

We have forecast a zero overall rate of change for the 2017–22 regulatory control period. While we forecast a positive rate of change for price growth, the impact of this on the opex forecast is offset by forecast productivity growth, resulting in a zero overall rate of change.

Forecast price growth

We applied average annual price growth of 0.5 per cent ($1.1 million, $2016–17) in our alternative estimate. APTPPL did not propose price growth.

- To forecast labour price growth, we used forecast growth in the wage price index for the utilities industry by Deloitte Access Economics. This is our typical approach to forecasting labour price growth.
- To forecast non-labour price growth, we applied the forecast change in CPI, consistent with our usual approach.

Forecast output growth

We did not include any forecast output growth in our alternative estimate. This is consistent with APTPPL's opex proposal. It is also consistent with APTPPL's capex proposal which does not include any expansion capex in the 2017–22 access arrangement period. APTPPL stated:

> …it is not forecast that demand will increase significantly in the forecast AA period. This demand forecast is reflected in the absence of any expansion capital expenditure in the capital expenditure forecast for the RBP.[14]

There may be arguments to support negative output growth which, if accepted, would lead to a slightly lower alternative estimate. However, applying small negative output growth would not materially impact our decision to accept APTPPL's opex proposal. We therefore have not undertaken a detailed analysis of this opex component.

Forecast productivity growth

We applied average annual productivity growth of around 0.5 per cent in our alternative estimate. This reduced our total opex forecast by $1.1 million ($2016–17).

APTPPL implicitly included positive productivity growth in its opex forecast, based on its historical opex performance. It stated its opex has been flat over the current access arrangement period despite an aging asset base which would be expected to drive higher maintenance costs.[15]

We adopted APTPPL's implicit productivity growth in constructing our alternative estimate, as we lack the necessary data from which to independently estimate a forecast of productivity growth.

7.4.3 Step changes

We did not include any step changes proposed by APTPPL when arriving at our alternative estimate.

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[14] APTPPL, *Roma to Brisbane pipeline access arrangement submission*, September 2016, p. 75.

[15] APTPPL, *Roma to Brisbane pipeline access arrangement submission,* September 2016, pp.184-185.

APTPPL proposed two step changes to meet changes in the costs of the DEWS levy[16] ($0.4 million) and DRM levy[17] ($0.3 million). Together these step changes constitute 1.0 per cent of APTPPL's total opex forecast.[18] APTPPL stated these step changes were to comply with changes to their regulatory obligation in the form of higher fee payments.

We recognise the levy changes will increase fees that APTPPL pays to government. However, we do not consider the cost increases are sufficiently material to warrant a departure from our standard treatment of non-labour price growth (which is to account for forecast change in CPI).

Expenditure incurred by a service provider will inevitably differ year-to-year. Some costs will go up by more than CPI; some will go up by less. Applying a step change for these costs—which are increasing faster than CPI—in our view is likely to yield a biased forecast if we do not also take into account costs that are increasing by less than CPI (or decreasing).

We consider these levies can be funded through APTPPL's base level of opex, adjusted by the rate of change. By applying the rate of change to base opex, we have adjusted our opex forecast to account for real price increases.

7.4.4 Category specific forecasts

We did not include the category specific forecasts proposed by APTPPL when arriving at our alternative estimate, except for debt raising costs.

We included a category specific forecast for debt raising costs of $1.2 million ($2016–17). Debt raising costs are transaction costs incurred each time debt is raised or refinanced. We forecast them based on a benchmarking approach rather than a service provider's actual costs to be consistent with the cost of debt forecast in the rate of return building block. Further details are set out in the debt and equity raising costs appendix in the rate of return attachment.

We did not include a category-specific forecast APTPPL proposed for major expenditure jobs. APTPPL identified two major expenditure jobs that it would incur during the 2017–22 access arrangement period, which are not reflected in the base year. These comprised cathodic protection (CP) interference testing and mitigation ($0.3 million) and loss of cover and mitigation assessment ($0.1 million).

APTPPL's revealed base year costs include major expenditure jobs. We included the expenditure associated with these jobs in the base opex we have used to forecast opex. The nature of work undertaken varies from year-to-year for many categories of

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16 APTPPL proposed this step change to meet an increase in the fee it pays the Department of Energy and Water Services (DEWS) under the Electricity Act 1994. This fee represents a portion of the cost of the AEMC.

17 APTPPL proposed this step change to meet an increase in the Mining Tenement Rents it pays the Department of Natural Resources and Mines (DRM).

18 Excluding debt raising costs.

opex. Under our assessment approach a key question is whether aggregate opex is relatively stable over time. For example, we may use a category specific forecast for an opex category that makes total opex so volatile we can no longer assume total opex is recurrent for forecasting purposes. In limited circumstances we may also use a category specific forecast for a specific cost category for category specific reasons, such as to ensure consistency with another related building block. Neither case applies to 'major expenditure jobs'. We have therefore not forecast major expenditure job costs separately from base opex in our alternative estimate.

We are concerned service providers have an incentive to identify opex categories to forecast separately when doing so increases their opex forecast. By limiting the number of category specific forecasts, we avoid a biased opex forecast.

7.4.5 Interrelationships

In assessing APTPPL's total forecast opex we took into account other components of its revenue proposal, including:

- APTPPL's capex proposal, which does not include any expansion capex in the 2017–22 access arrangement period, to forecast output growth
- the approach to assessing the rate of return, to ensure there is consistency between our determination of debt raising costs and the rate of return building block.

7.5 Revisions

We require APTPPL, in its revised proposal, to update its opex forecast for 2017–22 to reflect the actual opex it incurred in 2015–16.

APTPPL's opex forecast is based on APTPPL's estimate of the opex it will incur in 2015–16.